







Railroad Commission of Texas

Filing Completions for Oil, Gas and **Underground Injection Control**

August 25, 2021

The meeting will begin shortly.























Filing Completions for Oil, Gas & UIC

Weston Cassady Roseanna Edson Jim Moore Jacquelyn Teseny

August 25, 2021















Power Point Presentation



This presentation is available for download from the RRC website at:

https://www.rrc.texas.gov/oil-and-gas/workshops-and-conferences/rrc-regulatory-webinars/regulatory-webinars-2021-schedule/



COMPLETIONS OVERVIEW AND DISCUSSION

Form W-2/G-1

Class Synopsis



This presentation is a general overview of how to file Completion Reports utilizing the Railroad Commission of Texas Online Completion Filing System.

Texas Administrative Code Rule 3.16



Completion Reports are due:

- within 90 days after completion of the well
- or within 150 days after the drilling operation is completed
- whichever is earlier

Rule 3.16 (cont'd)



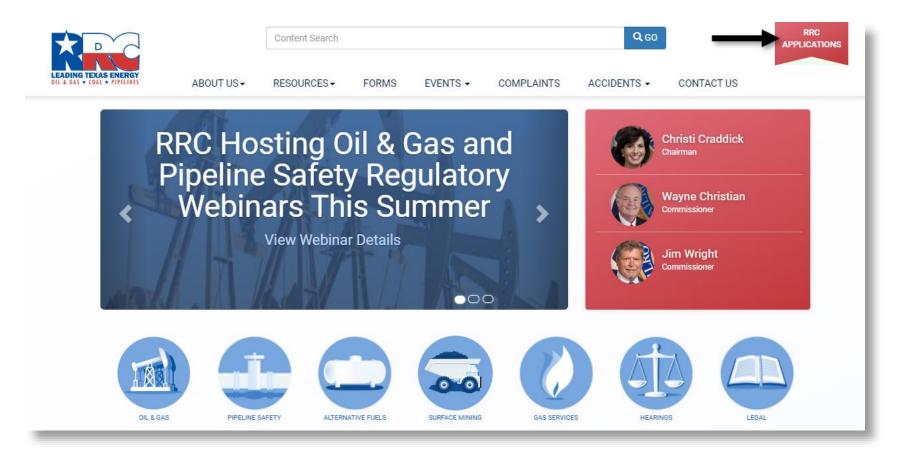
Subsequent Completion Reports are due:

- within 30 days of any physical changes made to wellbore structure
 - Adding new and/or squeezing perforations
 - Adding a liner
 - Adding tubing
 - Setting CIBP with/without cement

Navigating to the RRC Applications

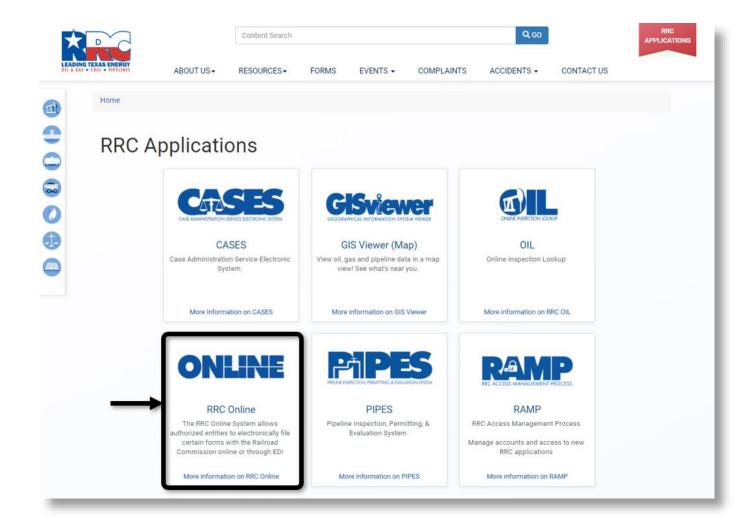


https://www.rrc.texas.gov/



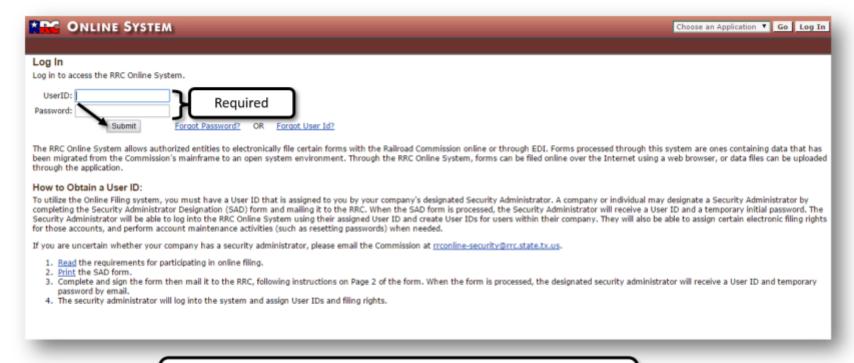
Selecting the Online System





Log In

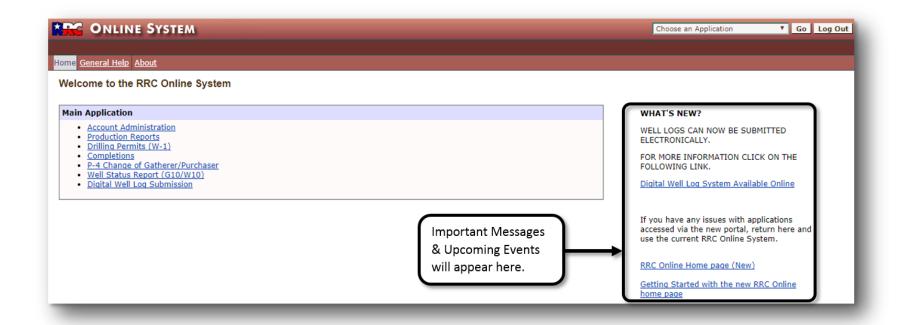




Enter your UserID & Password. If you have forgotten either use the Forgot Password? & Forgot User ID options to have instructions emailed to you.

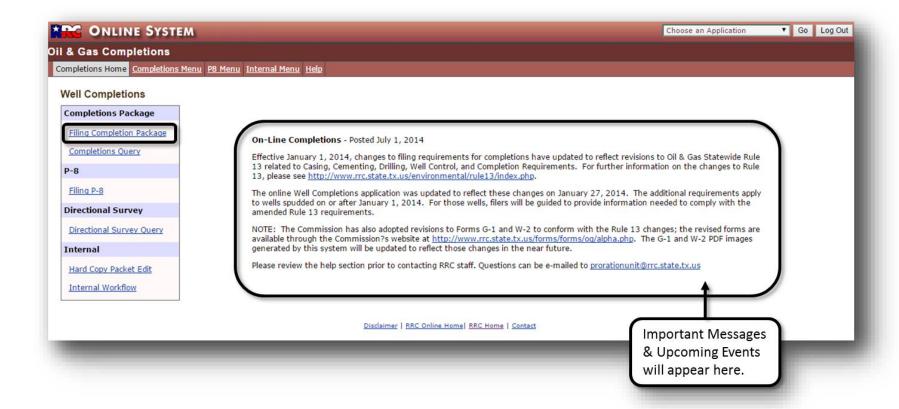
Online Applications





Completion Application





Select Filing Operator

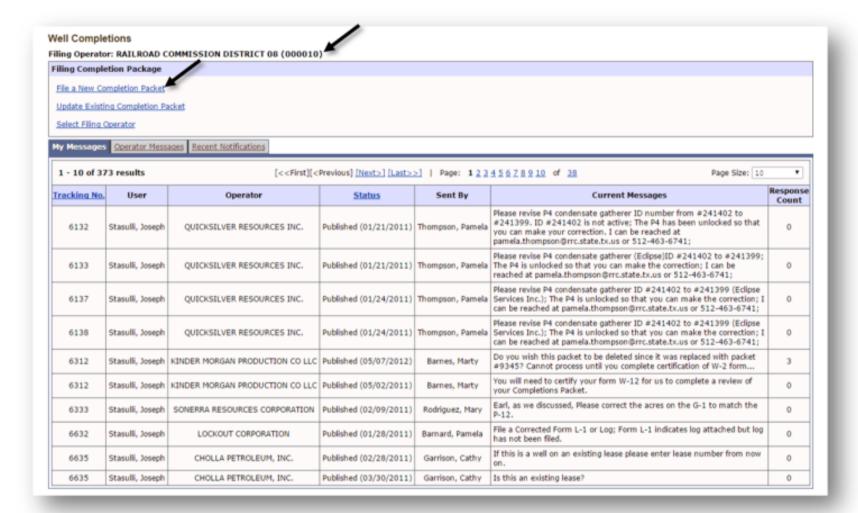


ONLINE SYSTEM			Choose an Application	▼ Go Log (
& Gas Completions				
ompletions Home Completions Menu	P8 Menu Internal Men	Help		
Select Filing Operator				
Filing operator: Undefined				
Search by Operator Number				
	Operator Number:	000010 Search		
Search by Operator Name				
		Beginning with these characters Containing these characters Matching these characters exactly		
	Operator Name:	Search		
Search Results				
000010 - RAILROAD COMMISSION I	ISTRICT 08			ń
				¥
Set Filing Operator				

If you are filing as a Consultant/Agent you will need to enter the appropriate Operator information here. If you are filing as an Operator then the online system will automatically select your operator number.

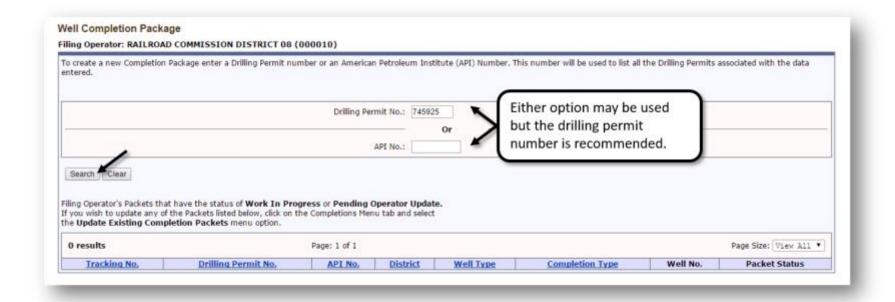
Filing Options





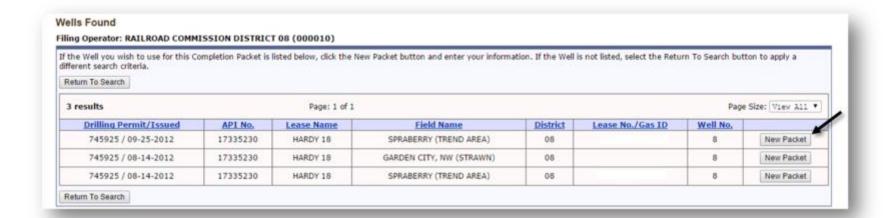
Identify the Well





Select the Field

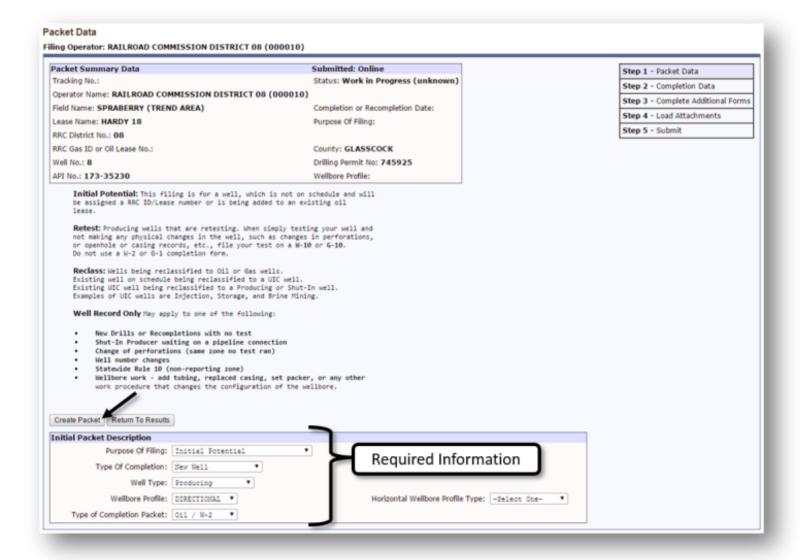




Select the field the well was completed in. If the well is downhole commingled you need to select the primary reporting field specified on your approved SWR-10 letter.

Initial Packet Description





Packet Description Options



Purpose Of Filing

Initial Potential

Retest

Reclass Oil to Gas

Reclass Gas to Oil

Reclass Injection to Producing

Reclass Producing to Injection

Well Record Only

PSA/Allocation Completion Type

PSA Allocation Not Applicable

Type of Completion

New Well

Deepening

Plug Back

Sidetrack

Re-entry

Other/Recompletion

Type of Completion Packet

Gas / G-1

Oil / W-2

Well Type

Producing

Shut-In Producer

Active UIC

Shut-In UIC

Wellbore Profile

Horizontal

Directional

Vertical

Sidetrack

UIC Forms and Permit Overview



UIC Permit Forms

H-1/H-1A

Enhanced Recovery
Oil and Gas Waste Disposal
Hydrocarbon Storage in a Reservoir

W-14

Oil and Gas Waste Disposal

H-2

Brine Mining

H-4

Hydrocarbon Storage Salt Cavern

UIC Proration Schedule Well Type

Injection

Shut-In (Oil Lease)

Temporarily Abandoned (Gas ID)

Brine Mining

LPG LIQ Storage – Salt Formation

Gas Storage – Reservoir Injection

Gas Storage – Salt Formation

Geothermal

UIC Permit Conditions

Injection Interval

Tubing / Packer Depth
Packer Exception
Packer Depth Exception

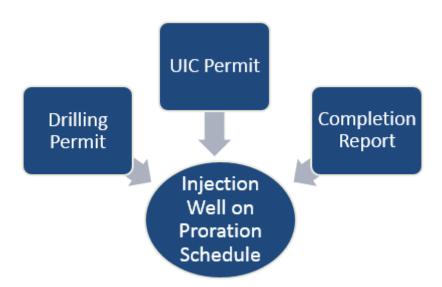
Casing and Permit Conditions
Plugback
Cast Iron Bridge Plug (CIBP)
Top of Cement Remediation

Other Permit Conditions

UIC Well on the Proration Schedule

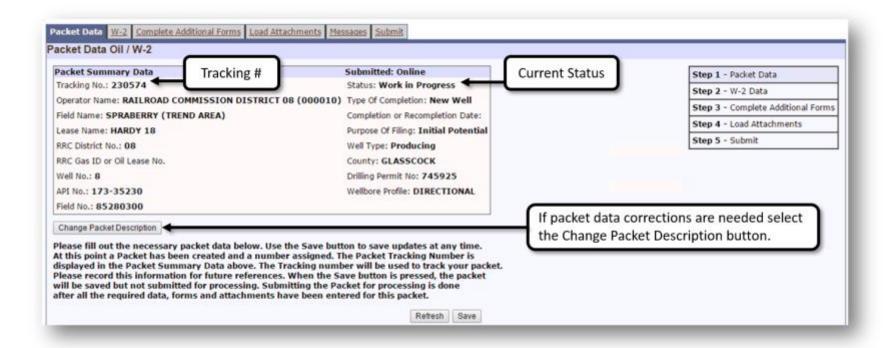


Field Name & Field Number must match on the Drilling Permit, UIC Permit & Completion Report



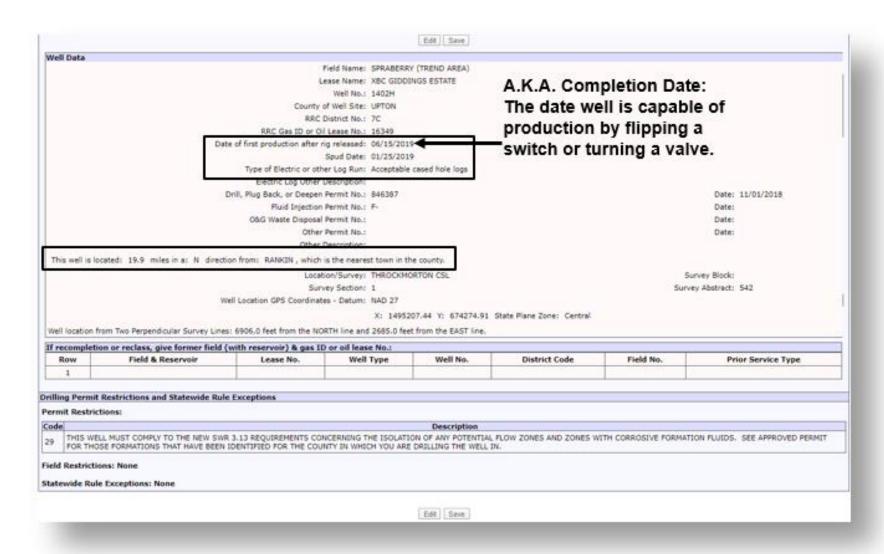
Verify Packet Data





Well Data & Workover Info.





Setting the Lease Number

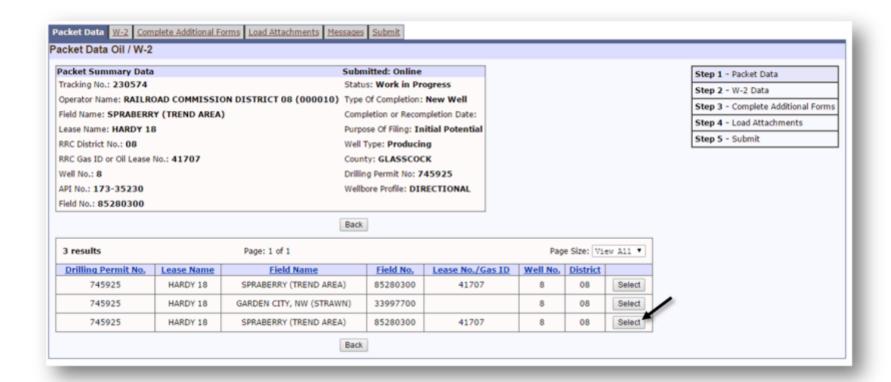


Select Lease	
Filing operator: RAILROAD COMM	IISSION DISTRICT 08 (000010)
Search by Lease Number	
	Lease No.: 41707 Search
Search by Lease Name	
	Beginning with these characters Containing these characters Matching these charactery
	Lease Name: Search
Search Results HARDY 18 - 41707 08	
Set Lease No Back	

If this well is going onto an existing lease then you should be adding the lease number to the packet data at this time.

Search for Field & Reservoir





Always use the Search for Field & Reservoir button instead of manually keying the workover information. This will automatically fill in the workover information with the correct field number, well number etc.

Packet Data Successfully Saved



racket Summary Data	Submitted: Online		Step 1 - Packet Data
Tracking No.: 230574	Status: Work in Progress		Step 2 - W-2 Data
Operator Name: RAILROAD COMMISSION DISTRICT 08 (000010) Field Name: SPRABERRY (TREND AREA)	Completion or Recompletion Date: 12/14/2012		Step 3 - Complete Additional For
ease Name: HARDY 18	Purpose Of Filing: Initial Potential		Step 4 - Load Attachments
RRC District No.: 08	Well Type: Producing		Step 5 - Submit
RRC Gas ID or Oil Lease No.; 41707	County: GLASSCOCK		
Well No.: 8	Drilling Permit No: 745925		
API No.: 173-35230	Wellbore Profile: DIRECTIONAL		
field No.: 85280300			
Change Packet Description lease fill out the necessary packet data below. Use the Save butt this point a Packet has been created and a number assigned. Ti isplayed in the Packet Summary Data above. The Tracking numb lease record this information for future references. When the Savill be saved but not submitted for processing. Submitting the Pacter all the required data, forms and attachments have been enter the save been entered the sa	ne Packet Tracking Number is er will be used to track your packet. ve button is pressed, the packet cket for processing is done		
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lease fill out the necessary packet data below. Use the Save butt this point a Packet has been created and a number assigned. Ti splayed in the Packet Summary Data above. The Tracking numb lease record this information for future references. When the Sa ill be saved but not submitted for processing. Submitting the Pac ter all the required data, forms and attachments have been ente /ell Data Field Name: SPRABERRY (TREND AREA) Lease Name: HARDY 18 County of Well Site: GLASSCOCK RRC District No.: 08	ne Packet Tracking Number is er will be used to track your packet. ve button is pressed, the packet cket for processing is done ered for this packet.	Well Latitude: Well Longitude: Lat/Long Type:	31.85250 -101.46028 NAD 27
lease fill out the necessary packet data below. Use the Save butt t this point a Packet has been created and a number assigned. Ti splayed in the Packet Summary Data above. The Tracking numb lease record this information for future references. When the Sa ill be saved but not submitted for processing. Submitting the Pac ter all the required data, forms and attachments have been ente Vell Data Field Name: SPRABERRY (TREND AREA) Lease Name: HARDY 18 County of Well Site: GLASSCOCK	ne Packet Tracking Number is er will be used to track your packet. ve button is pressed, the packet cket for processing is done ered for this packet.	Well Latitude: Well Longitude: Lat/Long Type: Lat/Long Other:	31.85250 -101.46028 NAD 27

W-2 Page 1 (Potential Test Data)



		Page 1	2 3 4 5 6	Save Edit
Potential Test Dat	a			
	Date of Tes	t: 07/10/2019	Hours Tes	sted: 24
	Production Method	d: Pumping	Choke Siz	ze:
	If Pumping, Pump Size	e: 4	Pump Typ	oe: ESP
	Was swab used during this test	?: No Ye	S	
	Oil Produced Prior to Tes	t: 16254.0 BBL		
	Injection Gas/Oil Ratio	: CF/BBL		
Remarks:				
Production During	Test Period			
Oil:	1103.0 BBL		Gas: 1496 MCF	
Water:	1864 BBL	Flowing Tubing Pr	essure: PSIG	
Gas - Oil Ratio:	1356 MCF/BBL x 1000			
Calculated 24 Hou	r Rate			
	Oil: 1103.0 BBL	Gas: 14	196 MCF	
	Water: 1864 BBL	Oil Gravity: 42	2.3 API-60°F	
Casing P	ressure: PSIG			
		Page 1	2 3 4 5 6	Save

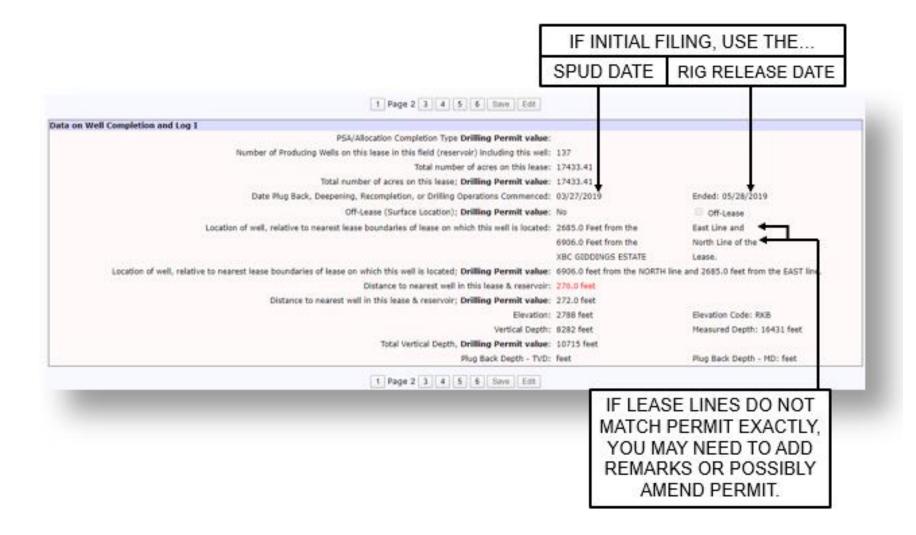
Form G-1 Page 1 (Test Data)



						Page 1	3 4 5 6	Save Edit			
Test D	ata										
Date o	f Test: 03/03/2021	MM/DD/YYYY			Gas	Measurement Method:					\neg
					2	Orifice Meter		In ga	s a "sing	le run" or	. 1
						Flange Taps					
						Positive Choke		"one	point te	st" lasts 7	/2
						Orifice Vent Meter		hour	s and the	e complet	tion
						Pipe Taps				•	
						Pitot Tube		date	and test	should b	e at
						Critical-flow Prover		least	3 days a	nart.	- 1
			_			Mass Flow Meter		(least	J days c	.part.	J
Gas Pr	oduced during Test	: 9024 M	CF			Other					_
Gas M	easurement Data										
Run No.	Line Size	Orif. or Choke Size	24Hr. Coeff. Orif. or Choke	Static Pm o		iff Flow Temp. w deg. F.	Temp. Factor Ftf	Grav. Factor Fg	Comp. Factor Fpv	Volume MCF/DAY	
1	3.068	1.5	14734.79	1134.16	43.06	148.0	0.9247	0.921	1.076	2984.0	Clear
Add A	dditional Run										
Field [ata and Pressure	Calculations									
	Dry Ga	s Well: No	Yes	Was the we	II preflowed fo	r 48 hours: O No O Yes					
	Gravity (Dr	y Gas): 0.707	Deg. API	Run No.	Time of Run Min.	Choke Size	Wellhead Pres	s. Wellhead Flow Temp. deg. F.			
"	Gas-Liquid Hydro		CF/Bbl	SHUT-IN	1440	0	3683	49.0	Clear		
	Gravity of Mixture (1	4320	34/64	4350	148.0	Clear		
			o _F	2					Clear		
		Temp: 186.65	o _F	3					Clear		
		Temp.: 324.3 Depth.: 13353.0	ft.	Add Addition	nal Run			,			
						Page 1	23456	Save Edit			

Page 2 (Completion Data I)





Page 2 (Drilling Operations)



			1 Page	2 3 4 5	6 Save	Edit			
Data on Well Completion and Log I									
			PSA/Allocation Comp	pletion Type Dr	rilling Permit v	alue:			
Number	of Pr	oducing Wei	ells on this lease in this	s field (reservoi	ir) including this	well: 132			
				Total number of	of acres on this l	ease: 174	33.41		
		Tot	tal number of acres or	this lease; Dr	rilling Permit v	alue: 174	33.41		
Date	e Plug	Back, Deep	pening, Recompletion,	or Drilling Ope	erations Comme	nced: 01/2	25/2019	Ended: 02/21/2	
							:		
Type of casing: Conductor	Х	Surface	Intermediate		Liner	Г	Production		
Drilled hole size (in.): 17 1/2			lled hole (ft.): 1406			Est. % we	ssh-out or hole enlarger	nent: Circ to Surfac	
Size of casing in O.D. (in.): 13 3/8		Casing weigh	ht (lbs/ft) and grade: 5	4.5 J55			centralizers used: 11		
Was cement circulated to ground surface (or bottom				Setting depth			Top of liner (ft.):		
casing? YES X NO If no for surface ca	_		autorals:	25	91	*	Setting depth liner (1	t.	
Hrs. walking on cement before drill-out: 12		Calculated to	alculated top of cement (ft.): ()			Comentin	Comenting date: 1/26/2019		
Type of Casing: Surface	Ŋ 1	ntermedi	iate 🗆 Pr	oduction [Tapered Production	M.	ulti-stage	Multiple par	
Type of Casing: Surface	Ŋ 1	ntermedi	iate 🗌 Pr	oduction 🗌	Tapered Production	M.	ulti-stage ment shoe	Multiple par	
Drilled hole size (in.): 12 1/4	3 1	Dep	oth of drilled hole	(ft.): 6641	Production	Est. %	ment shoe wash-out or hole o	strings	
Drilled hole size (in.): 12 1/4 Size of casing in O.D. (in.): 9 5/8	Ŋ. I	Dep		(ft.): 6641 and grade:	Production 40 L80	Est. % v	ment shoe wash-out or hole o centralizers used:	strings	
Drilled hole size (in.): 12 1/4		Dep	oth of drilled hole	(ft.): 6641 and grade:	Production	Est. % v	ment shoe wash-out or hole o centralizers used:	strings	
Drilled hole size (in.): 12 1/4 Size of casing in O.D. (in.): 9 5/8 Tapered string drilled hole size (in.) Upper: Lower: Tapered string size of casing in O.D.(in.)		Casi	oth of drilled hole sing weight (lbs/ft) ered string casing	(ft.): 6641 and grade: Tapered s Upper: weight(lbs/f	Production 40 L80 string depth o	Est. % v No. of c	ment shoe wash-out or hole o centralizers used: hole (ft.) Lower: d string no. of cen	strings enlargement: 20% 42 tralizers used	
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Page 3 (SWR-13 Excess Surface Casing)



	1 2 Page 3 4 5 6 Save	Edit
Data on Well Completion and Log II		
GAU Groundwater Protection Determination Depth: 425.0		
GAU Groundwater Protection Determination Date: 11/06/2018	3	
For new drill or re-entry, surface casing depth determined by	:	
GAU Groundwater Protection Determination		
✓ SWR 13 Exception	Depth: 1500.0	

Purpose: New Production Well
Location: Survey-THROCKMORTON CSL; Abstract-542; Section-1; League-1

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The base of usable-quality water-bearing strata is estimated to occur at a depth of 425 feet at the site of the referenced well.

d. The casing and cement program shall adhere to the following specifications:

Set 1500 feet of surface casing and circulate cement from the shoe to the ground surface.

Page 3 (SWR-13 Exception)



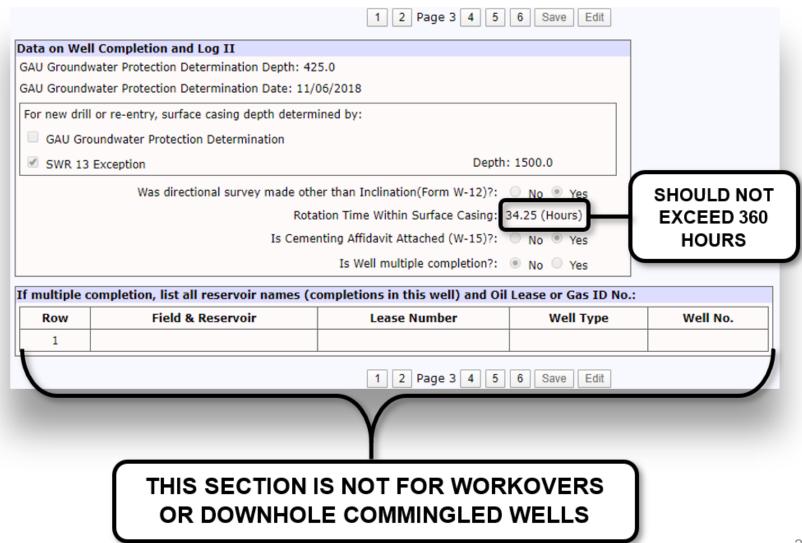
SWR 13 Exception Example: Short Surface Casing

Casi	Casing Record										
Ro	w Type of Casing	Hole Size (inches & fractions)	Casing Size - O.D. (inches & fractions)	Setting Depth (ft.)	Multi-Stage Tool Depth (ft.)	Multi-Stage Shoe Depth (ft.)	Cement Class	Cement Amount(sacks)	Slurry Volume (cu. ft.)	Top of Cement	
1	Surface	17 1/2	13 3/8	2513			A	1585	3521.0	0	
2	Intermediate	12 1/4	9 5/8	5290			A	1130	2445.0	0	
3	Conventional Production	8 1/2	5 1/2	15780			Н	2475	4227.0	0	

The base of usable-quality water is estimated to occur at a depth of 5150 feet. Moreover, the interval from the land surface to a depth of 150 feet and the zone from a depth of 1300 feet to 2400 feet contains water of usable-quality which must be protected. Furthermore, the CARRIZO from 2700 feet to 3750 feet contains superior quality water which must be isolated from water in overlying and underlying beds.

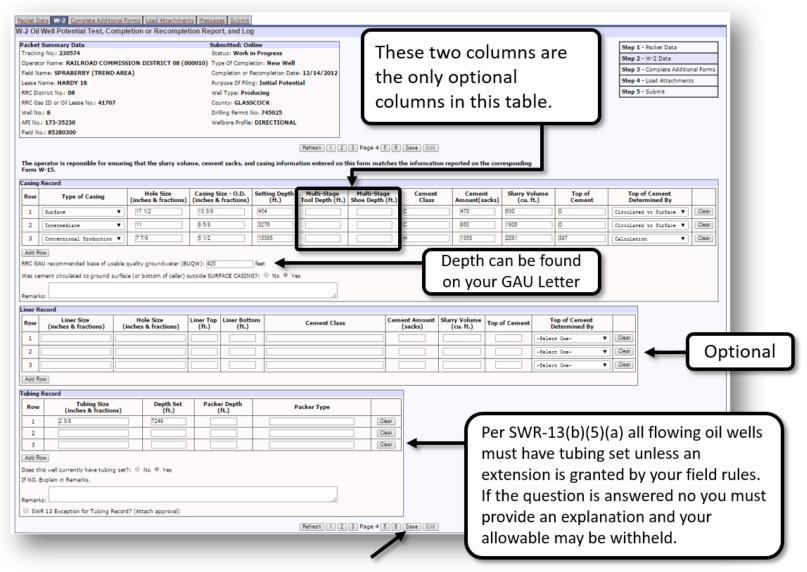
Page 3 (Rotation Time)





Page 4 (Casing, Liner & Tubing)

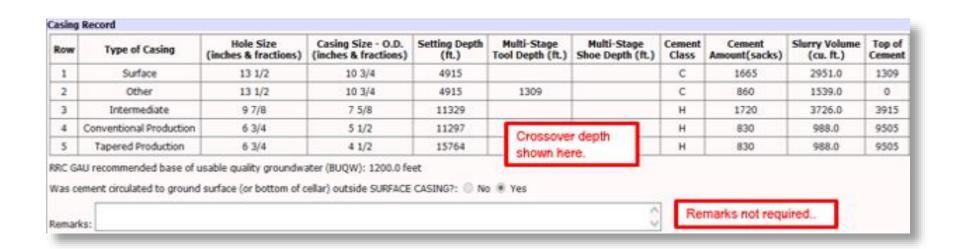




Page 4 (Tapered Casing Example 1)



Crossover depth in Casing Record is preferred.



Page 4 (Tapered Casing Example 2)



Crossover depth shown in Remarks.

Row	Type of Casing	Hole Size (inches & fractions)	Casing Size - O.D. (inches & fractions)	Setting Depth (ft.)	Multi-Stage Tool Depth (ft.)	Multi-Stage Shoe Depth (ft.)	Cement Class	Cement Amount(sacks)	Slurry Volume (cu. ft.)	Top of Cemen
1	Surface	13 1/2	10 3/4	5175			35:65 C	1825	3249.0	1277
2	Other	13 1/2	10 3/4	5175	1277		С	1000	1790.0	0
3	Intermediate	9 7/8	7 5/8	12186		7.0	50:50:10H+	1740	3657.0	4170
4	Tapered Production	6 3/4	5 1/2	16645	Same setti	Same setting depth w/		790	940.0	10419
5	Tapered Production	6 3/4	4 1/2	16645	different cs	The state of the s	н	790	940.0	10419
as co	THE 4 1/2 AND	e of usable quality grou ound surface (or bottom 5 1/2 PRODUCTION C (ATTACHED) CROSSO	of cellar) outside SURS	STRING AND BO	OTH STRINGS SHA	RE THE SAME W-		ossover depth own in Remark	s.	

Page 4 (Tapered Hole Size)



If hole size is tapered, option to show on one line showing largest hole size.

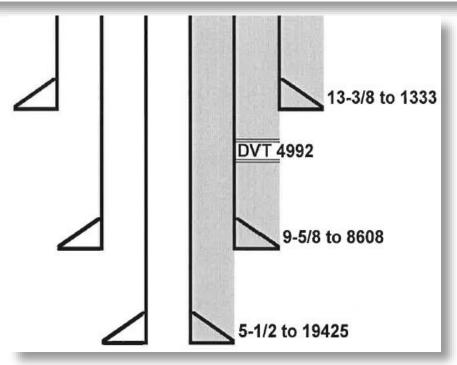
- Tapered Hole size not offered on drop down.
- W-15 must reflect two different hole sizes.
- Remarks should show depth hole size tapered.

Page 4 (Multi-Stage Example)



Order of Casing is **preferred**.

Casing	Casing Record									
Row	Type of Casing	Hole Size (inches & fractions)	Casing Size - O.D. (inches & fractions)	Setting Depth (ft.)	Multi-Stage Tool Depth (ft.)	Multi-Stage Shoe Depth (ft.)	Cement Class	Cement Amount(sacks)	Slurry Volume (cu. ft.)	Top of Cement
1	Surface	17 1/2	13 3/8	1333			С	1246	2303.0	0
2	Intermediate	12 1/4	9 5/8	8608	4992		TXI & C	1242	3074.7	0
3	Intermediate	12 1/4	9 5/8	8608			TXI & C	856	2053.7	4992
4	Conventional Production	8 1/2	5 1/2	19425			Н	2575	3965.5	450



Page 4 (Multi-Stage Cementing)



If DVT did not open, include Tool depth in Casing Record:

- Combine cement sacks, including if perforated & squeezed, into one line only.
- Add Remark "DVT did not open".
- Important to show depth of DVT as it might affect future plugging procedure; 100' plug will have to be placed across tool.

Page 4 (Liner)



Liner with Cement:

W-15 will be attached to completion.

Liner F	Liner Record										
Row	Liner Size (inches & fractions)	Hole Size (inches & fractions)		Liner Bottom (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement			
1	7	8 3/4	10492	10504	Н	310	420.67	7832			

Liner without Cement:

Will not have W-15 attached to completion.

Liner I	Liner Record										
Row	Liner Size (inches & fractions)	Hole Size (inches & fractions)		Liner Bottom (ft.)	Cement Class	Cement Amount (sacks)	Slurry Volume (cu. ft.)	Top of Cement			
1	3 1/2	6 1/8	3106	7216	N/A- NO CEMENT PUMPED						

Page 4 (Tubing)

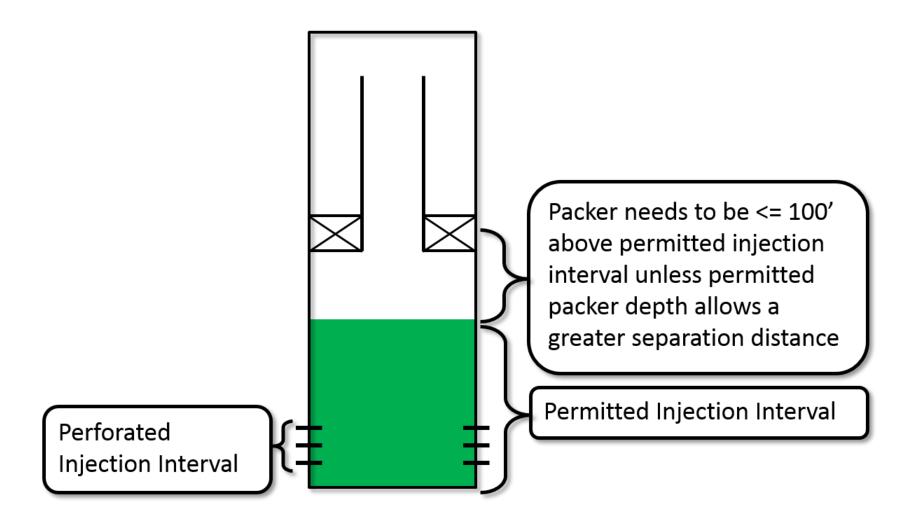


ubing Record				
Row	Tubing Size (inches & fractions)	Depth Set (ft.)	Packer Depth (ft.)	Packer Type
1	2 7/8	7785		
oes this well of NO, Explain i	currently have tubing set?: O No O Y	/es		A
SWR 13 Ex	ception for Tubing Record? (Attach appr	roval)		
		CMT CIRC TO SURF		
		GAU 425 9-5/8 TOC @ 1090 CALC 13-3/8 @ 1391 2 TOC @ 3520 CBL		
	DVT @	4704 i/8 @ 6627		
				16431

5-1/2 @ 16418

Page 4 (UIC Packer Depth)

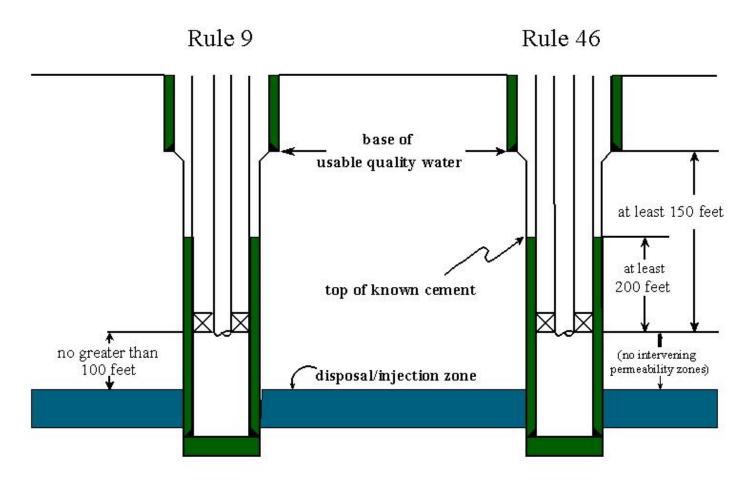




SWR-9 & SWR-46 Packer Setting Depths



Packer Setting Depths



Applying the UIC Permit to Page 4-5



CHRISTI CRADDICK, CHAIRMAN DAVID PORTER, COMMISSIONER BARRY T. SMITHERMAN, COMMISSIONER



GIL BUJANO, P.E. DIRECTOR, OIL AND GAS DIVISION

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION PERMIT TO INJECT FLUID INTO A RESERVOIR PRODUCTIVE OF OIL AND GAS

PROJECT NO. F-14660, COMMERCIAL AMENDMENT

BTA OIL PRODUCERS, LLC 104 S PECOS MIDLAND, TX 79701

Authority is granted to inject into the well identified herein in accordance with Statewide Rule 46 of the Railroad Commission of Texas and based on the information contained in the application (Forms H-1 and H-1A) dated September 09, 2014 for the permitted interval of the SPRABERRY formation and subject to the following terms and special conditions:

TEXACO (04192) LEASE SPRABERRY (TREND AREA) FIELD REAGAN COUNTY, DISTRICT 7C Permitted Interval: 5577'-6468'

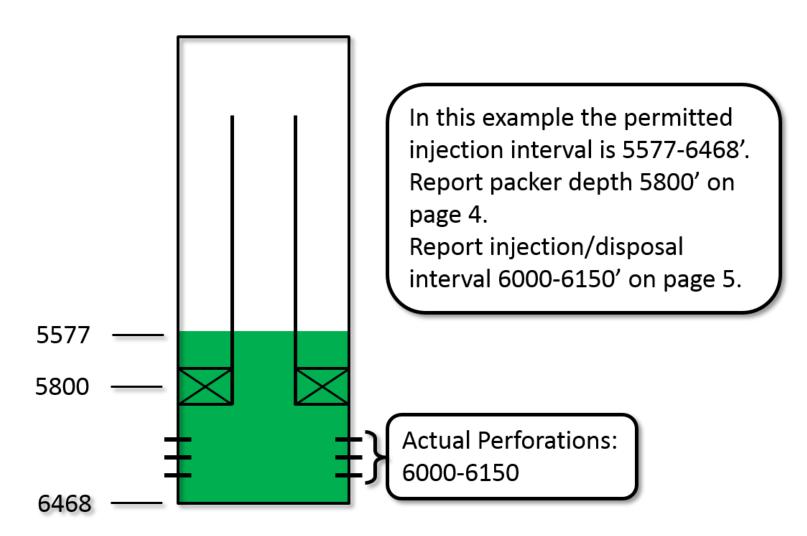
Actual Packer Depth: 5800'

WELL IDENTIFICATION AND PERMIT PARAMETERS

						•			
Well No.	API No.	UIC Number	Permitted Fluids	Top Interval (feet)	Bottom Interval (feet)	Maximum Liquid Daily Injection Volume (BBL/day)	Maximum Gas Daily Injection Volume	Pressure for Liquid	Surface Injection Pressure
3	38332419	000098363	Salt Water, and Other Non- Hazardous O/G Waste	5577	6468	15000	N/A	2750	N/A

UIC Injection/Disposal Interval





Page 5



	/Injection/Disport m and To are for Me		completion) Indicate dept forizontals.	h of perforation on ope	en hole	
Row	From (feet)	To (feet)	Bottom Hole Label	Lateral Label	Open Hole	
1	8761	16383	Horizontal	Lateral 1	0	
emarks:	ACTURE, CEMENT S	SQUEEZE, CAST 1	RON BRIDGE PLUGS, RETA	INER, ETC.		
		n (feet)	To (feet)	Amount and Kind of	f Material Used	Process
Dep	rval	444 440		SEE FRAC FOCUS		

FORMATION RECORD (List depths of Principal Geological Markers and Formation Tops, including, but not limited to, all permitted Disposal/Injection formations within ¼ mile of the wellbore, Productive Zones, Potential Flow Zones, and Corrosive Formation Fluid Zones.)

Row	Principle Markers and Formation Tops	Encountered	Depth -TVD (feet)	Depth - MD (feet)	Isolated	Remarks
1	YATES	×	2503.8	2525.0	96	
2	GRAYBURG	~	4294.9	4359.1	- 26	
3	SAN ANDRES - SALTWATER FLOW	9.	4524.2	4593.2	- 20	
4	SPRABERRY	- 20	7382.4	7471.2	*	
5	WOLFCAMP	0.			.0.	WELL IS NOT DEEP ENOUGH
6	STRAWN	0			(B)	WELL IS NOT DEEP ENOUGH
7	DEVONIAN				0	WELL IS NOT DEEP ENOUGH
8	FUSSELMAN	- 0				WELL IS NOT DEEP ENOUGH
9	ELLENBURGER					WELL IS NOT DEEP ENOUGH

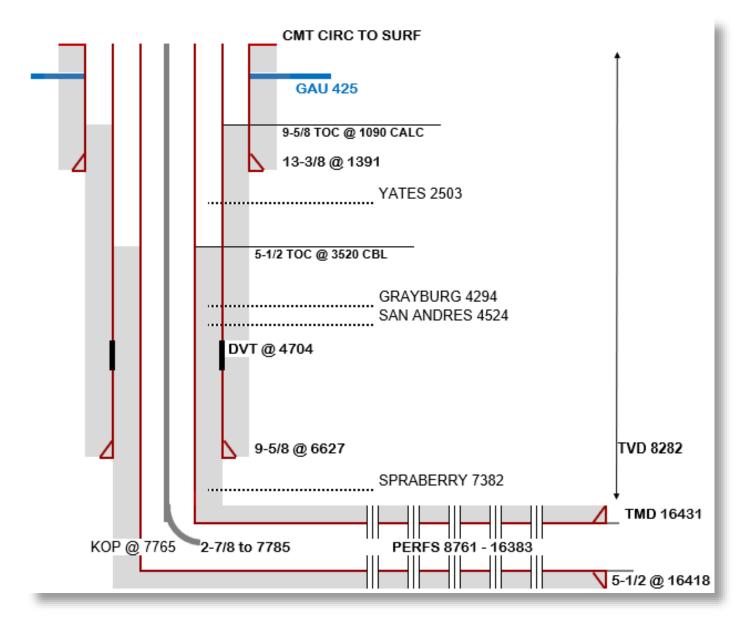
Data on Well Completion and Log I

KOP ~ 7765', DIGITAL WELL LOG # 18323 SUBMITTED ON 6.25.19, N-2 WRD TRACKING # 216455 SUBMITTED ON 7.23.19.

Remarks:

SWR-13 Wellbore Diagram

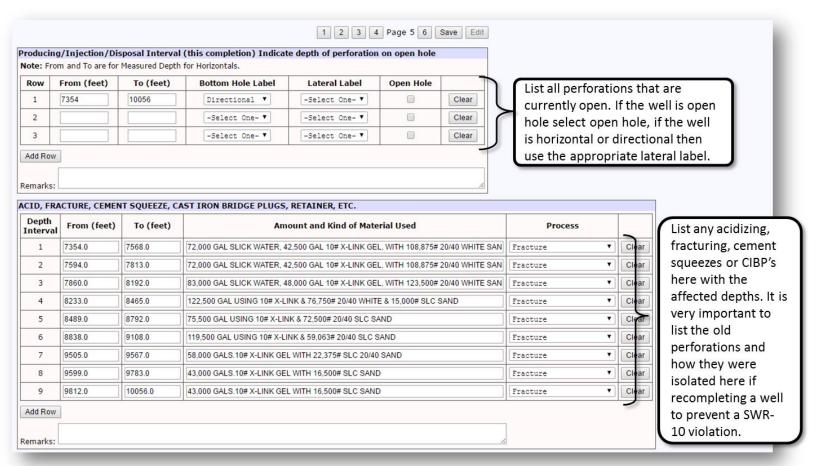




Page 5 (Broken Out Intervals)



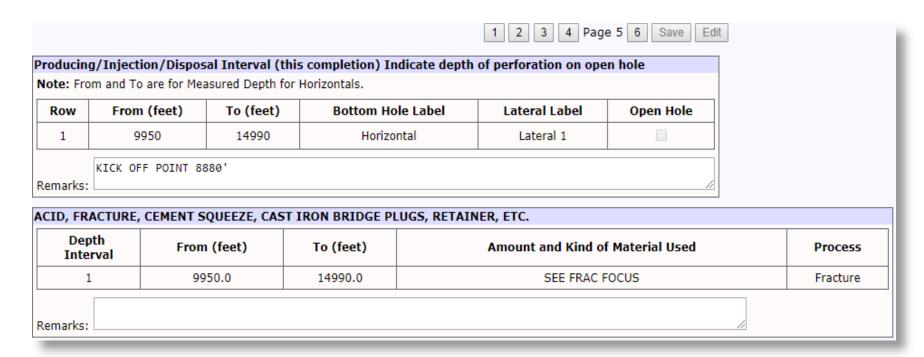
OPTION 1



Page 5 (Using a Reference)



OPTION 2

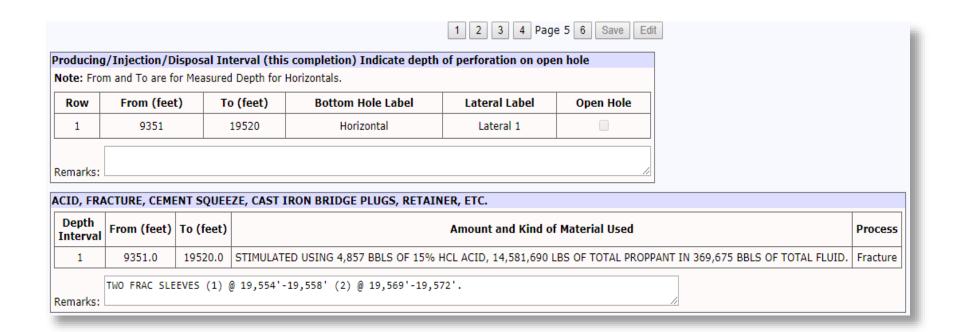


- SEE FRAC FOCUS is an acceptable option
- Kick off point in remarks
- Producing and Fractured intervals are the same

Page 5 (Intervals Summarized)



OPTION 3



- Summarize Frac Stimulants
- Add any helpful Remarks

Page 5 (Encountered)



When to mark to "encountered" in the formation record section?

- The "encountered" checkbox must be marked if the formation/zone was penetrated by this wellbore.
- If "encountered" is marked, the operator must enter a depth.
 - Approach staff geologist for assistance with depths.

Page 5 (Encountered Cont.)



- If the formation/zone was penetrated but not logged, the operator is expected to give a reasonable estimate based on existing available information.
 Please specify in remarks if the depth is an estimate.
 - Explanations such as "not logged, null, N/A or cement squeeze" are not valid explanations of why not logged.

Page 5 (Not Encountered)



- If "encountered" is not marked, the operator must explain in remarks as to why the formation/zone was not encountered (e.g. pinched-out, well is not deep enough, etc.).
 - Example Remarks
 - Does not exist in the immediate area
 - Not geologically present
- Remark can be listed below productive formation
 - Below TD
 - Well not drilled deep enough vertically.

Page 5 (Isolated)



When to mark "isolated" in the formation record section?

- "Isolated" means that the formation/zone has been isolated by cemented casing pursuant to SWR-13(a)(4)(c), (b)(2)(A), and (b)(3)(B):
 - 600' Calculation or 200' inside next casing string
 - 250' Temperature Survey
 - 100' Cement Bond Log

Page 5 (Isolated Cont.)



 If the formation/zone was encountered by the wellbore, the operator must indicate whether that formation/zone was isolated by cemented casing pursuant to these requirements of SWR-13.

Page 5 (Not Isolated)



- If the formation/zone is part of the completion interval, and is adequately confined by cemented casing, do mark isolated.
 - Yes, mark "isolated" zone perforated
- If the formation/zone was not encountered, the "isolated" checkbox will not be applicable.
 - Zone may be below TD.

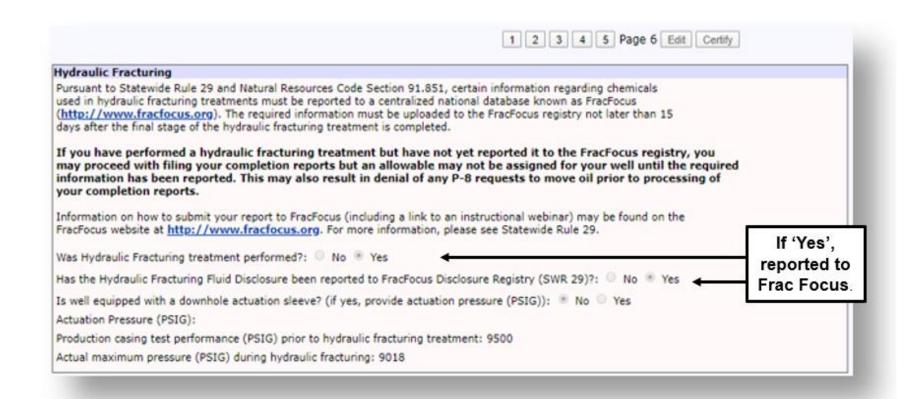
Page 5 (Not Isolated Cont.)



- If the formation/zone was encountered but is not isolated by cemented casing, do not mark isolated.
 In this case, the operator must explain in remarks as to why the formation/zone was not isolated.
 - If formation is present but not productive in the immediate area (within quarter-mile radius of wellbore), add a Remark.

Page 6 (Hydraulic Fracturing)





Page 6 (Actuation Pressure)



Is well equipped with a downhole actuation sleeve?

If **yes**, production casing test pressure has to be >= 80% of the actuation pressure.

Was Hydraulic Fracturing treatment performed?: O No Yes	
Has the Hydraulic Fracturing Fluid Disclosure been reported to FracFocus Disclosure Registry (SW	/R 29)?: No Yes
Is well equipped with a downhole actuation sleeve? (if yes, provide actuation pressure (PSIG)):	○ No Yes
Actuation Pressure (PSIG): 7780.0 ◀	84%
Production casing test performance (PSIG) prior to hydraulic fracturing treatment: 6540 ◀	04/0
Actual maximum pressure (PSIG) during hydraulic fracturing: 7958	

Page 6 (Actual Maximum Pressure)



Is well equipped with a downhole actuation sleeve?

If **no** downhole actuation sleeve, Actual Maximum Pressure should be less than or equal to Production Casing Test Performance.

Was Hydraulic Fracturing treatment performed?: O No Yes
Has the Hydraulic Fracturing Fluid Disclosure been reported to FracFocus Disclosure Registry (SWR 29)?: O No Pes
Is well equipped with a downhole actuation sleeve? (if yes, provide actuation pressure (PSIG)): No Yes
Actuation Pressure (PSIG):
Production casing test performance (PSIG) prior to hydraulic fracturing treatment: 9500 ₹7065 ≤ 9500
Actual maximum pressure (PSIG) during hydraulic fracturing: 7065

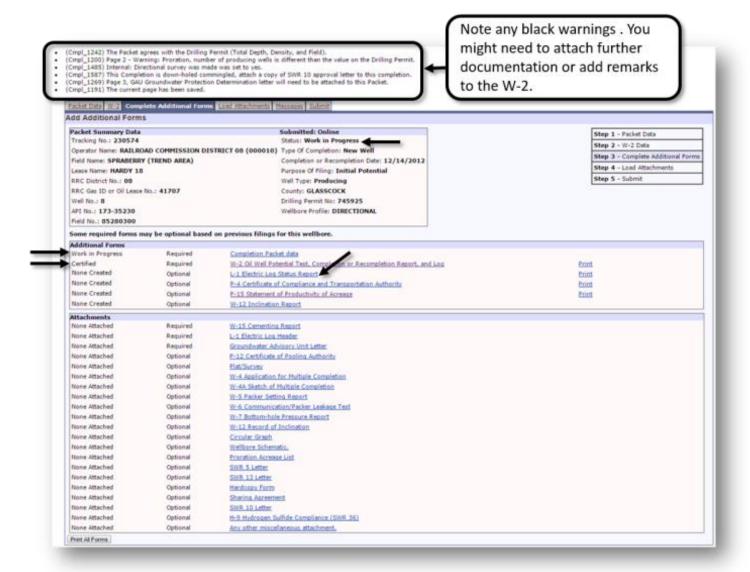
Page 6 (Certification)



Do the producing intervals of this well produce H2S with a concentra	tion in excess of 100 ppm? (SWR 36): No Yes
Is this completion being down-holed commingled (SWR 10)?: ® No) Yes
Is this lease part of a pooled unit?: No Yes	
* If the approval SWR 10 is pending, place a remark on page	5 indicating the submitted date of the SWR 10 application.
OPERATOR'S CERTIFICATION	
I declare under penalties prescribed in Sec. 91.143, Texas Natural R to make this report, that I prepared or supervised and directed this therein are true, correct, and complete, to the best of my knowledg	report, and that data and facts stated
I Accept: No Yes	
	1 2 3 4 5 Page 6 Edit Certify

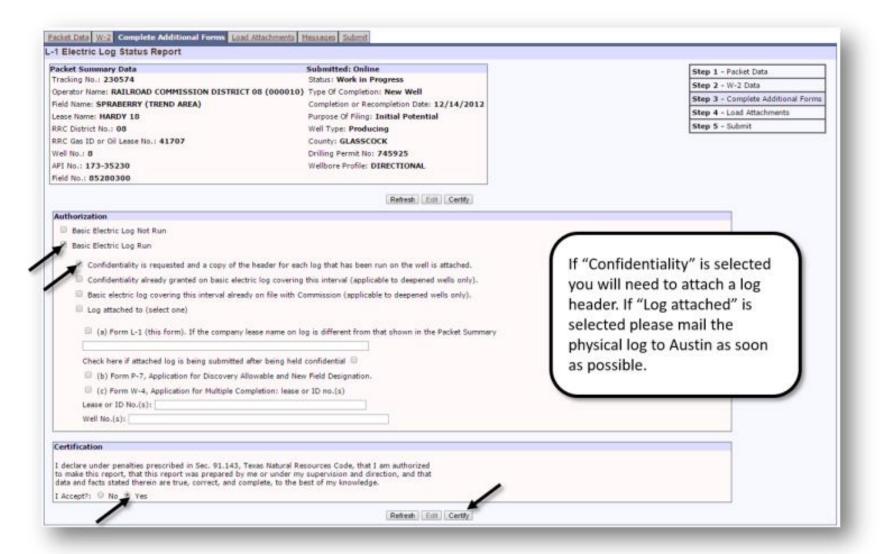
Complete Additional Forms





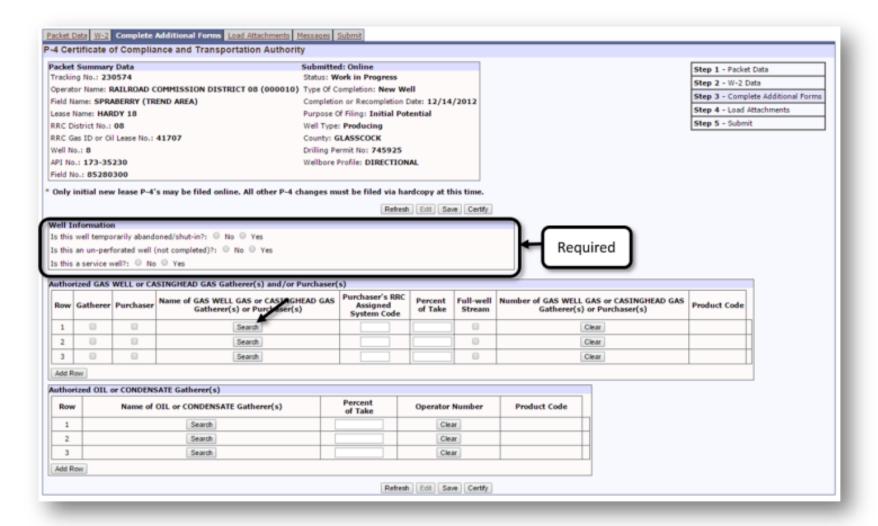
L-1 (Electric Log Status Report)





P-4 (Cert. of Comp. & Trans. Authority)





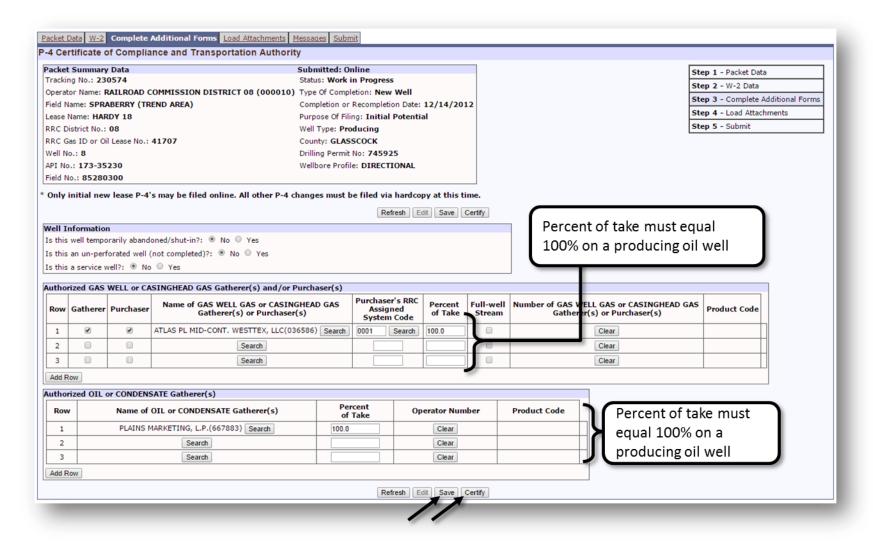
P-4 (Searching for Gatherers & Purchasers)



elect Operator						
Filing operator: RAILROAD COMMISSION DISTRICT 08 (000010)						
rch by Operator Number						
Operator No.: Search						
rch by Operator Name						
Beginning with these characters Containing these characters Matching these characters exactly						
Operator Name: laffas p Search						
rch Results						
AS POWER EQUIPMENT, LLC(036588)						
AS POWER INC. (036575)						
AS POWER INC & REISS PET. INC(036577) AS PETRO LTD, L.C.(036579)						
AS PROCESSING COMPANY (036580)						
AS PIPELINE MID-CONTINENT LLC(036584)						
AS PL MID-CONT. WESTIEX, LLC(036586)						
ct Operator Back						

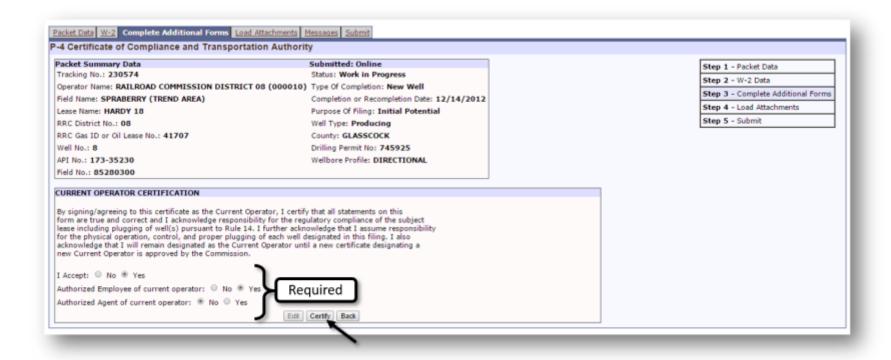
Certifying & Saving the P-4





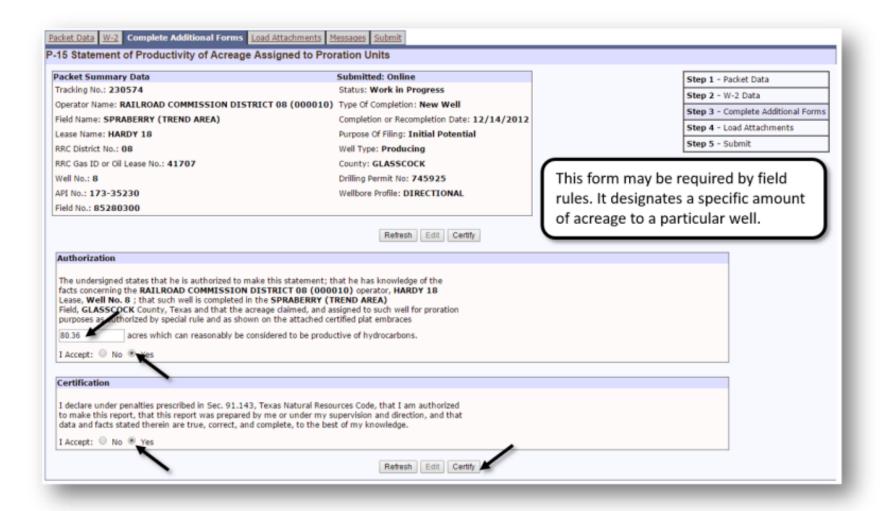
P-4 (Certification Page)





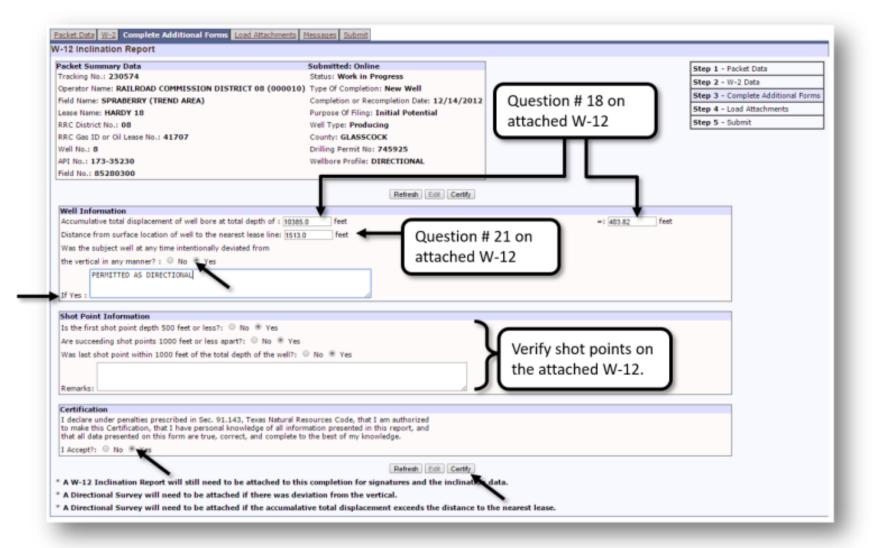
P-15 (Statement of Productivity of Acreage)





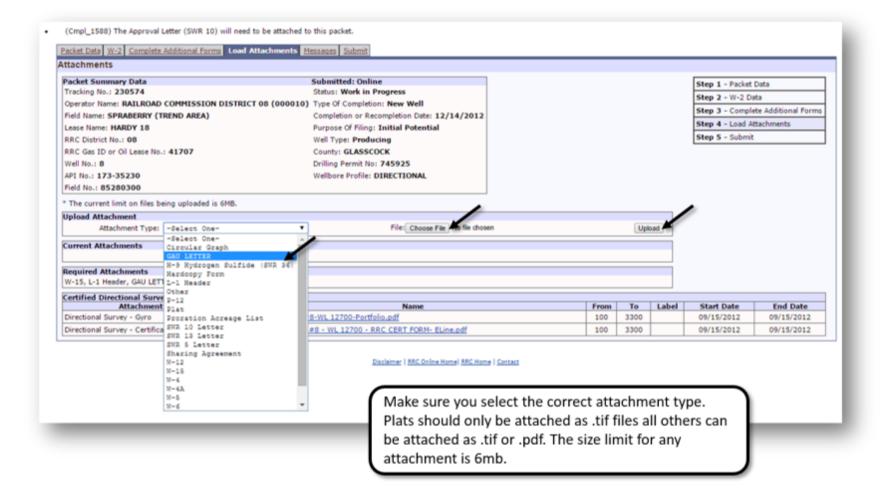
Online Fillable W-12 (Inclination Report)





Load Attachments





GAU Letter (Date Issued)



GROUNDWATER PROTECTION DETERMINATION

Form GW-2



Groundwater Advisory Unit

Date Issued:	24 January 2017	GAU Number:	166089	
Attention:	TRACKER RESOURCE DEV III,	API Number:	23536167	
	1050 17TH STREET SUITE	County:	IRION	
	DENVER, CO 80265	Lease Name:	BARNHART 77S75	
Onemater No.	864047	Lease Number:		
Operator No.:	804047	Well Number:	3LM	
		Total Vertical Depth:	7500	
		Latitude:	31.242421	
		Longitude:	-101.159951	
		Datum:	NAD27	

GAU Letter (Applicable Radius)



Operator No.: 864047

Well Number: 3LM

Total Vertical Depth: 7500

Latitude: 31.242421

Longitude: -101.159951

Datum: NAD27

Purpose: New Drill

Location: Survey-H&TC RR CO; Abstract-393; Block-14; Section-77

To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to the base of the Santa Rosa, which is estimated to occur at a depth of 700 feet, must be protected.

This recommendation is applicable to all wells within a radius of 300 feet of this location.

GAU Letter (Subject Well Only)



To protect usable-quality groundwater at this location, the Groundwater Advisory Unit of the Railroad Commission of Texas recommends:

The interval from the land surface to the base of the Santa Rosa, which is estimated to occur at a depth of 700 feet, must be protected.

This recommendation is applicable to all wells within a radius of 300 feet of this location.

Note: Unless stated otherwise, this recommendation is intended to apply only to the subject well and not for area-wide use. This recommendation is for normal drilling, production, and plugging operations only. It does not apply to saltwater disposal operation into a nonproductive zone (RRC Form W-14).

This determination is based on information provided when the application was submitted on 01/18/2017. If the location information has changed, you must contact the Groundwater Advisory Unit, and submit a new application if necessary. If you have questions, please contact us at 512-463-2741 or gau@rrc.texas.gov.

Groundwater Advisory Unit, Oil and Gas Division

Form GW-2 P.O. Box 12967 Austin, Texas 78771-2967 512-463-2741 Internet address: www.rrc.texas.gov

L-1 Header



B A aker Atla	KER IUGHES	COM	MPENSATE PENSATE DIGITAL GAMMA	ED Z ED NE SPEC A RAY	-DEN TUTRO TRAL	SILOG SH ON LOG OG S
FILE NO: ND9939	COMPANY WELL	APACHE CO	18			
API NO: 42-173-35230	FIELD COUNTY	GLASSCOCK	(TREND AREA		E TEXAS	
Ver. 3.87	LOCATION: 1513' FNL & SECTION 18, I SURVEY: TAP I	BLOCK 33 T4S	A-707		OTH DLL DAL	ER SERVICES
PERMANENT DATUM LOG MEASURED FROM DRILL MEAS, FROM	GLKB	ELEVATION	2617 FT ABOVE P.D.		KB 263	EVATIONS: 14 FT 13 FT 17 FT
DATE RUN TRIP	22- 1	SEP-2012	1			
SERVICE ORDER DEPTH DRILLER		072 85 FT				
DEPTH LOGGER		85 FT				
BOTTOM LOGGED INTER TOP LOGGED INTERVAL		FT PE		_		
TING DRILLER			3276 FT			•
anaING LOGGER		5 FT				
BIT SIZE		75 IN				
TYPE OF FLUID IN HOLI DENSITY VISCO			45 S			
	D LOSS 10.		7 C3	1		
SOURCE OF SAMPLE		WLINE	/ W	1		
RM AT MEAS, TEMP.			80 DECF			$\overline{}$
RWF AT MEAS. TEMP.			80 DEGF	\rightarrow	Prot	perties [
RMC AT MEAS, TEMP,	1.3		80 DEGF		,	
SOURCE OF RMF			CALCULATED			
RM AT BHT			171.6 DEGF			•
TIME SINCE CIRCULATIO		HRS		-		
MAX. RECORDED TEMP.		DEGF	MIDI AND	J		
EQUIP. NO. LOCA RECORDED BY	1100		WIDLAND			L
RECURDED BY	K.5	CHADE / B.TE	LLER			

Log & Log Header Requirements



- Company Name
- Lease Name
- Well Number
- Field
- API number
- Elevations
- Fluid/Mud Properties
- Logger depth must cover the producing interval
- Log header must be legible for audit and scanning
- Log must be continuous

Plat



Proration Plat Example



ease Plat Example



Proration Acreage List



Oil Lease No./Gas Well ID No: 41707

Lease Name(s): HARDY 18

Operator(s): APACHE CORPORATION 027200

API No.	District		Lease No.	Lease Name	Well No.	Field No	Field Name	Acres
17333893		8	41707	HARDY 18	1	85280300	SPRABERRY (TREND AREA)	40.18
17333913		8	41707	HARDY 18	2	85280300	SPRABERRY (TREND AREA)	40.18
17334943		8	41707	HARDY 18	3	85280300	SPRABERRY (TREND AREA)	80.36
17334664		8	41707	HARDY 18	5	85280300	SPRABERRY (TREND AREA)	40.18
17334947		8	41707	HARDY 18	6	85280300	SPRABERRY (TREND AREA)	40.18
17335229		8	41707	HARDY 18	7	85280300	SPRABERRY (TREND AREA)	80.36
17335230		8	41707	HARDY 18	8	85280300	SPRABERRY (TREND AREA)	80.36
17335273		8	41707	HARDY 18	9	85280300	SPRABERRY (TREND AREA)	80.36
17335407		8	41707	HARDY 18	10	85280300	SPRABERRY (TREND AREA)	40
17335408		8	41707	HARDY 18	11	85280300	SPRABERRY (TREND AREA)	40.36
17335879		8	41707	HARDY 18	12	85280300	SPRABERRY (TREND AREA)	40.36
17335880		8	41707	HARDY 18	13	85280300	SPRABERRY (TREND AREA)	40
			1 60.726-1		_		ALLOCATED ACRES IN LEASE	642.88
An acrea	ge list m	ay	be require	d by field rule	s. It		TOTAL ACRES IN LEASE	642.9
			the lease i	n the specifie	ed field		UNALLOCATED ACRES IN LEASE	0.02

and the acres allocated to each well.

P-16 (Acreage Designation Section I & II)





Operator Name:

RAILROAD COMMISSION OF TEXAS

Form P-16

1701 N. Congress P.O. Box 12967 Austin, Texas 78701-2967

Operator P-5 No.:

Page 1 Rev. 05/2019

Acreage Designation

Filer is the owner or lessee, or has been authorized by the owner or lessee, of all or an undivided portion of the mineral estate under each tract for which filer is listed as operator below. For all leases operated by other entities, the number of assigned acres shown are reflected on current Commission records or the filer has been authorized by the current operator to change the assigned acreage of that operator as shown below.

SECTION I. OPERATOR INFORMATION

Operator Address:	·						
			SECTION II. WELL INFO	RMATION			
District No.:			API No.:			Purpose of Filing:	
Well No.:			Drilling Permit No.:				
Lease Name:			RRC ID or Lease No.:			Drilling Permit Application	
Total Lease Acres:			Field Name:			(Form W-1)	
Proration Acres:	Proration Acres:		Field No.:			Completion Report	
Wellbore Profile			Is this a UFT field?			(Form G-1/W-2)	
SL Record (Parent) Well Drilling Permit No.:			County:				

P-16 (Acreage Designation Section III & IV)

COMMISSION
8 + P

	SECTION III. LISTING OF ALL WELLS IN THE APPLIED-FOR FIELD ON THE SAME ACREAGE AS THE LEASE, POOLED UNIT, OR UNITIZED TRACT DESIGNATED IN SECTION II ABOVE BY FILER									
RRC ID No. or Lease No.	Well No.	Profile	Lease Name	API No.	Acres Assigned	SWR 38 Except. (Y/N)	Operator Name and Operator No. (if different from filing operator)			
					-					
					-					
A. Total Assigned Ho				I Assigned Acreage =						
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						ddress <i>only</i> if you	affirmatively consent to its public release)			
Address		City,	State, Zip Code Tel:	Area Code Num	nber	Date:	mo. day yr.			

SWR-10 Letter (Downhole Commingling)



BARRY T. SMITHERMAN, CHAIRMAN DAVID PORTER, COMMISSIONER CHRISTI CRADDICK, COMMISSIONER



GIL BUIANO, P.E. DIRECTOR, OIL AND GAS DIVISION

RAILROAD COMMISSION OF TEXAS

OIL AND GAS DIVISION

January 28, 2013

APACHE CORPORATION
ATTN: REGULATORY DEPARTMENT
2000 POST OAK BLVD STE 100
HOUSTON TX 77056

RE: APPLICATION FOR EXCEPTION TO SWR 10 LEASE: HARDY 18

LEASE: HARDY 18
WELL NO. 8
GLASSCOCK COUNTY, DISTRICT 08, TEXAS
API NO. 173-35230

FIELD NAME FIELD NO.

SPRABERRY (TREND AREA) 85280300

GARDEN CITY, NW (STRAWN) 33997700

HYDROGEN SULFIDE RESTRICTION: NO.

The Commission has approved your application to down-hole commingle production within the above-referenced wellhore from the SPRABERRY (TREND AREA); and GARDEN CITY, NO (STRAWN) fields in GLASSCOCK County, Texas For allowable and recording purposes, the well will be assigned to the SPRABERRY (TREND AREA) field. It will be necessary to have or obtain Commission authority to complete this well in each of the subject zones (Form W-1 approval). The effective date of this SWR 10 Exception is January 25, 2013. This exception to

approval). The effective date of this SWR 10 Exception is January 25, 2013. This exception to SWR 10 will expire if not used within two (2) years from the date of this permit. This expiration date is January 29, 2015.

Acreage assigned to the referenced well for allocation of allowable shall not be assigned to any other well or wells projected to or completed in the above-referenced fields; such duplicate assignment of acreage is not acceptable, provided, however, that this limitation shall not prevent the reformation of development or proration units so long as no duplicate assignment of acreage occurs, and further, that such reformation does not violate other conservation regulations.

The maximum daily allowable for the combined production will be limited to the top allowable for the SPRABERRY (TREND AREA) field and will become effective upon receipt of Form W-2 showing combined completion data and results of a 24-hour production test taken after the physical work of down hole commingling has been completed. Please indicate in "remarks" the reason for filing this report, giving date of Commission approval of this Rule 10 exception.

1701 NORTH CONGRESS AVENUE * POST OFFICE BOX 1200 * AUXITECT TEXAS 78711-3967 * FRONE: 512-963-8804 * FAX: 512-963-890 TEXAS FOR * ANY EQUAL OR POST TEXT TESTS OF THE * TEXT TO BE READ Page 1 of 2 Application for Exception to SWR 10, January 28, 2013 HARDY 18 — WELL NO. 8, API NO. 173-35230

Should secondary recovery operations be initiated in either of these reservoirs, it may be necessary to segregate these zones. If surface-commingling authority has been granted, it may be necessary to amend or cancel this authority.

Permit conditions:

The completion report for the commingled well must indicate which perforations belong to which field. The Commission may also require a wellbore diagram to be filed with the completion report for the commingled well. If filed, the wellbore diagram must indicate which perforations belong to which field.

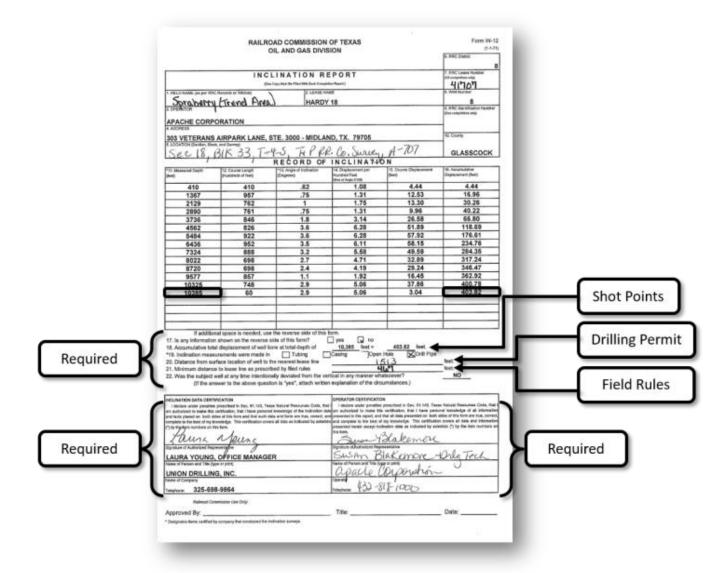
Note: The distribution of this document will be by E-MAIL ONLY. E-mail sent to keisha.stark@apachecorp.com.

If you have any questions, you may contact the engineering unit in the Austin office at 512-475-2307.

1701 NORTH CONGRESS AVENUE * POST OFFICE BOX 12907 * AUSTEN, TEXAS 1871-12907 * PHONE: \$12-461-4604 * FAX: \$12-461-4605 TEX 600-755-360 * AN EQUIAL OFFICE THAT EXPENDITES * http://www.nc.com/riches/des/

W-12 (Inclination Report)





W-15 (Cementing Report)



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W-15 (Important Notes)



Full and complete signatures from both operator and cementer are required.

- Digital signatures are acceptable
- Initials are not acceptable.

CEMENTER'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that the cementing of casing and/or the placing of cement plugs in this well as shown in the report was performed by me or under my supervision, and that the cementing data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers cementing data only.

J	John Smith / Cementer		Cementing Company LLC			Uane Voe for John Smith			,		
	Name and title of cementer's representative		Ceme	nting Company		Sign	nature				
	10 Desta Dr, Suite 500 E	Midland	TX	79705	(43)	2) 684-5581		07/01/20	21		
	Address	City,	State,	Zip Code	Tel: Area	a Code	Number	Date:	mo. day	y yr.	

OPERATOR'S CERTIFICATE: I declare under penalties prescribed in Sec. 91.143, Texas Natural Resources Code, that I am authorized to make this certification, that I have knowledge of the well data and information presented in this report, and that data and facts presented on both sides of this form are true, correct, and complete, to the best of my knowledge. This certification covers all well data.

John Doe	Regul	atory Techn	ician		John Doe			
Typed or printed name of operator's representative		Title		Si	gnature			
1701 N. Congress	Austin	TX	78701	(512) 463-6838		08/01/2021		
Address	City,	State,	Zip Code	Tel: Area Code	Number	Date: mo. day yr.		

W-15 (Changes)



Operator is not authorized to alter cementing information without Cementer's approval.

- If change was made, will need both Cementer and Operator representative's name authorizing change and date on W-15.
- If change was made without Cementer's approval, operator will be required to request/submit a new cementing report.

W-15 (Well Information)



Packet Summary Data Submitted: Online

Tracking No.: 185192 Status: Approved (04/26/2018)

Operator Name: APACHE CORPORATION (027200) Type Of Completion: New Well

Field Name: SPRABERRY (TREND AREA) R 40 EXC Completion or Recompletion Date: 09/11/2017

Lease Name: SCHROCK, W.M. 2326 Purpose Of Filing: Well Record Only

RRC District No.: 08 Well Type: Shut-In Producer

RRC Gas ID or Oil Lease No.: 49796 County: MIDLAND

and day is an edge non 1979

Well No.: 9HA Wellbore Profile: HORIZONTAL

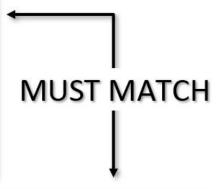
API No.: 329-41595 Horiz WB Completion Type:

Drilling Permit No: 824312 SL Record (Parent) Well Drilling Permit No.: Field No.: 85280301 Horizontal Depth Severance (feet): 8400

Field Name: Saraberry (Thend Orea) R40 &c. Field No.: 85280301

Field Validated Date: 06/15/2018 Unit No:

Submitted: (01/03/2018)



RAILROAD COMMISSION OF TEXAS

1701 N. Congress P.O. Box 12967 Austin, Texas 78701-2967

CEMENTING REPORT

Form W-15

Rev. 08/2014

Cementer: Fill in shaded areas. Operator: Fill in other items.

	OPERATOR INFORMATION
Operator Name: Apache Corporation	Operator P-5 No.: 027200
Cementer Name: Basic Energy Services	Cementer P-5 No.: 054313
Designation of the second seco	WELLINFORMATION
District No.: 08	County: Midland
Well No.: 9 HA	API No.: 42-329-41595 Drilling Permit No.: 82431
Lease Name: Schrock WM 2326	Lease No.:

W-15 (Sec. I for Operator)



Casing Cementing Data - Conductor, Surface, Intermediate, Liner & Production

I. CASING CEMENTING DATA									
Type of casing: Conductor Surface Intermediate Liner Production									
Drilled hole size (in.):		Depth of drilled hole (f	t.):	Est. % wash-out or hole enlargement:					
Size of casing in O.D. (in	.):	Casing weight (lbs/ft) a	nd grade:	No. of centralizers used	l:				
Was cement circulated to ground surface (or bottom of cellar) outside casing? YES NO If no for surface casing, explain in Remarks. Setting depth shoe (ft.): Setting depth liner (ft.):									
				Setting depth i	mer (rc.).				
Hrs. waiting on cement	before drill-out:	Calculated top of ceme	nt (ft.):	Cementing date:	mer (rc.).				
Hrs. waiting on cement	before drill-out:		ent (ft.): RRY		mei (ru).				
Hrs. waiting on cement Slurry No.	before drill-out:				Height (ft.)				
		SLU	RRY	Cementing date:					
		SLU	RRY	Cementing date:					
		SLU	RRY	Cementing date:					

W-15 (Sec. I for Cementer)



RRC Approved Cementer fills out Shaded Areas: Conductor, Surface, Intermediate, Liner & Production

I. CASING CEMENTING DATA									
Type of casing: Conductor Surface Intermediate Liner Production									
Drilled hole size (in.): Depth of drilled hole (ft.): Est. % wash-out or hole enlargement:									
Size of casing in O.D. (in	Size of casing in O.D. (in.): Casing weight (lbs/ft) and grade: No. of centralizers used:								
	Was cement circulated to ground surface (or bottom of cellar) outside Setting depth shoe (ft.):								
casing? L YES	NO If no for surface casir	ng, explain in Remarks.			Setting depth	iner (ft.):			
Hrs. waiting on cement	before drill-out:	Calculated top of ceme	ent (ft.):	Cemen	ting date:				
		SLU	IRRY	_					
Slurry No.	No. of Sacks	Class	Additives	Volu	ıme (cu. ft.)	Height (ft.)			
1									
2									
3									
Total									

W-15 (Data for Sec. I)



Sec. I Casing Cementing Data - Intermediate or Production

		I. CASING CEN	MENTING DATA		
Type of casing:	Conductor Surfac	e Intermediate	Liner P	roduction	
Drilled hole size (in.):		Depth of drilled hole (f	t.):	Est. % wash-out or hole	enlargement:
Size of casing in O.D. (in	.):	Casing weight (lbs/ft) a	sing weight (lbs/ft) and grade: No. of centralizers used:		
Was cement circulated to ground surface (or bottom of cellar) outside casing? YES NO If no for surface casing, explain in Remarks. Setting depth shoe (ft.): Setting depth liner (ft.):					
Hrs. waiting on cement	before drill-out:	Calculated top of ceme	ent (ft.):	Cementing date:	
Hrs. waiting on cement	before drill-out:		ent (ft.): URRY		
Hrs. waiting on cement Slurry No.	before drill-out: No. of Sacks				Height (ft.)
		SLU	IRRY	Cementing date:	
		SLU	IRRY	Cementing date:	
		SLU	IRRY	Cementing date:	

W-15 (Data for Sec. II)



Sec. II Casing Cementing Data - Intermediate or Production

		II. CASING CE	MENTING DATA		
Type of casing: Surface Intermediate Production Tapered production Multi-stage cement shoe Multiple parallel string					Multiple parallel strings
Drilled hole size (in.):		Depth of drilled hole (ft.):		Est. % wash-out or hole enlargement:	
Size of casing in O.D. (in	ı.):	Casing weight (lbs/ft) a	and grade:	No. of centralizers used	:
Tapered string drilled he	ole size (in.)		Tapered string depth of	drilled hole (ft.)	
Upper: Lower:			Upper:	Lower:	
Tapered string size of ca	sing in O.D. (in.)	Tapered string casing weight(lbs/ft) and grade		Tapered string no. of centralizers used	
Upper:	Lower:	Upper:	Lower: Lower:		
Was cement circulated	to ground surface (or botto	om of cellar) outside casi	ng? YES NO	Setting depth shoe (ft.)	:
Hrs. waiting on cement	before drill-out:	Calculated top of cement (ft.):		Cementing date:	
		SLU	JRRY		
Slurry No.	Slurry No. No. of Sacks Class A		Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

W-15 (Data for Tapered Hole or String)



Sec. II or III Casing Cementing Data - Tapered Hole or Tapered String

II. CASING CEMENTING DATA					
Type of casing: Surface Intermediate Production Tapered production Multi-stage cement shoe Multiple parallel strip					Multiple parallel strings
Drilled hole size (in.):		Depth of drilled hole (ft.):		Est. % wash-out or hole	enlargement:
Size of casing in O.D. (in	.):	Casing weight (lbs/ft) a	and grade:	No. of centralizers used	l:
Tapered string drilled he	ole size (in.)		Tapered string depth of	f drilled hole (ft.)	
Upper: Lower:			Upper:	Lower:	
Tapered string size of ca	ising in O.D. (in.)	Tapered string casing weight(lbs/ft) and grade		Tapered string no. of centralizers used	
Upper:	Lower:	Upper: Lower:		Upper: Lower:	
Was cement circulated	to ground surface (or botto	m of cellar) outside casing? YES NO		Setting depth shoe (ft.):	
Hrs. waiting on cement	before drill-out:	Calculated top of cement (ft.):		Cementing date:	
		SLU	IRRY		
Slurry No.	Slurry No. No. of Sacks Class		Additives	Volume (cu. ft.)	Height (ft.)
1					
2					
3					
Total					

W-15 (Multi-Stage Data for Sec. II)



Sec. II Casing Cementing Data - Multi-Stage Cement Shoe

		II. CASING CEN	MENTING DATA			
Type of casing: Sur	face Intermediate	ProductionTaper	ed production Multi	-stage cement shoe	Multiple parallel strings	
Drilled hole size (in.):	Drilled hole size (in.): Depth of drilled hole (ft.):			Est. % wash-out or hole enlargement:		
Size of casing in O.D. (in	ı.):	Casing weight (lbs/ft) a	and grade:	No. of centralizers used	l:	
Tapered string drilled he	ole size (in.)		Tapered string depth of	drilled hole (ft.)		
Upper:	Upper: Lower:			Lower:		
Tapered string size of ca	sing in O.D. (in.)	Tapered string casing weight(lbs/ft) and grade		Tapered string no. of centralizers used		
Upper:	Lower:	Upper:	Lower:	Upper: Lower:		
Was cement circulated	to ground surface (or botto	m of cellar) outside casi	ng? YES NO	Setting depth shoe (ft.)	:	
Hrs. waiting on cement	before drill-out:	Calculated top of ceme	ent (ft.):	Cementing date:		
		SLU	IRRY			
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)	
1						
2						
3						
Total						

W-15 (Multi-Stage Data for Sec. III)



Sec. III Casing Cementing Data - Multi-Stage Cement/DV Tool

		III. CASING	CEMENTING DATA			
Type of casing: Su	rface Intermediate [Production Tap	ered production Multi-	stage cement/DV tool	Multiple parallel strings	
Drilled hole size (in.):	rilled hole size (in.): Depth of drilled hole (ft.):		Est. % wash-out or hole enlargement:			
Size of casing in O.D. (in	n.):	Casing weight (lbs)	/ft) and grade:	No. of centralizers used:		
Tapered string drilled h Upper: Tapered string size of c Upper: Was cement circulated	Lower:	Upper:	Tapered string depth of Upper: ng weight(lbs/ft) and grade Lower: casing? YES NO	Tapered string no. of cer Upper: Setting depth tool (ft.):	ntralizers used Lower:	
Hrs. waiting on cement	before drill-out:	Calculated top of c	Calculated top of cement (ft.):		Cementing date:	
	27	90	SLURRY	10		
Slurry No.	No. of Sacks	Class	Additives	Volume (cu. ft.)	Height (ft.)	
1						
2						
3						
Total						

W-15 (Plugs on Back of W-15)



Cementing to

- Squeeze
- Plug Back
- Plug And Abandon

CEMENTING TO SQUEEZE, PLUG BACK OR PLUG AND ABANDON							
	PLUG #1	PLUG #2	PLUG #3	PLUG #4	PLUG #5	PLUG #6	PLUG #7
Cementing Date							
Size of hole or pipe (in.)							
Depth to bottom of tubing or drill pipe (ft.)							
Cement retainer setting depth (ft.)							
CIBP setting depth (ft.)							
Amount of cement on top of CIBP (ft.)							
Sacks of cement used							
Slurry volume pumped (cu. ft.)							
Calculated top of plug (ft.)							
Measured top of plug, if tagged (ft.)							
Slurry weight (lbs/gal)							
Class/type of cement							
Perforate and squeeze (YES/NO)							

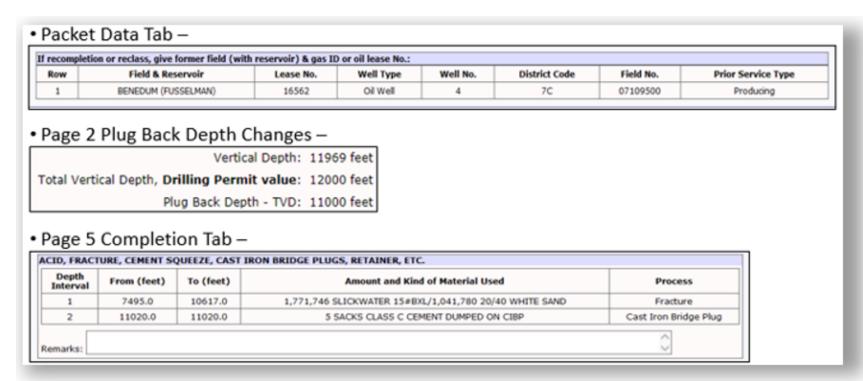
REMARKS	

W-15 (Cement Squeeze)



If squeeze or plug back, recompletion information will appear under several completion tabs:

• W-15 is **required** to be attached for well to be removed from schedule.



W-21 (Application for Exc. to SWR-21)



Railroad Commission of Texas Oil and Gas Division Application for Exception to Statewide Rule 21 to Produce by Swabbing, Bailing, or Jetting Operator Name Operator No. Address (Street, City, State and Zip Code) RRC District No. County Lease Name RRC Lease ID No. Field Name RRC Field No. Location (Section, Block, Survey - Give perpendicular location from two designated survey lines.) Casing and Tubing Data Name of String Weight Setting Depth Sacks Cement/Top of Cement Top Determined By Surface Casing Intermediate Long String Tubing (Size and Depth) Total Depth of Well Swabbing Bailing Jetting Other (attach explanation) Is production through is the Wellbore subject to SWR 36? (H₂S) Yes or No Tubing Casing Date Well Drilled is production through APLNO Onen Hole Perforations Depth to Base of Deepest Anticipated Monthly Production Fresh Water Zone (Attach Tank Battery Mobile Unit copy of Water Board Letter) Wellhead Control (Type and Model No.) Are there any other Wells producing by swabbing, bailing, or jetting in this Field? Names and Addresses of Surface Owners (attach list if necessary) Names and Addresses of Mineral Interest Owners of Record (attach .is: if necessary) CERTIFICATE I declare under penalties prescribed in Section 91.143. Texas Natural Resources Code, that I Signature am authorized to make this application, that this application was prepared by me or under my supervision, and that the information stated herein is true, correct and complete, to the best Name of Person (Print) Title of my knowledge Telephone

P-12 (Certificate of Pooling Authority)

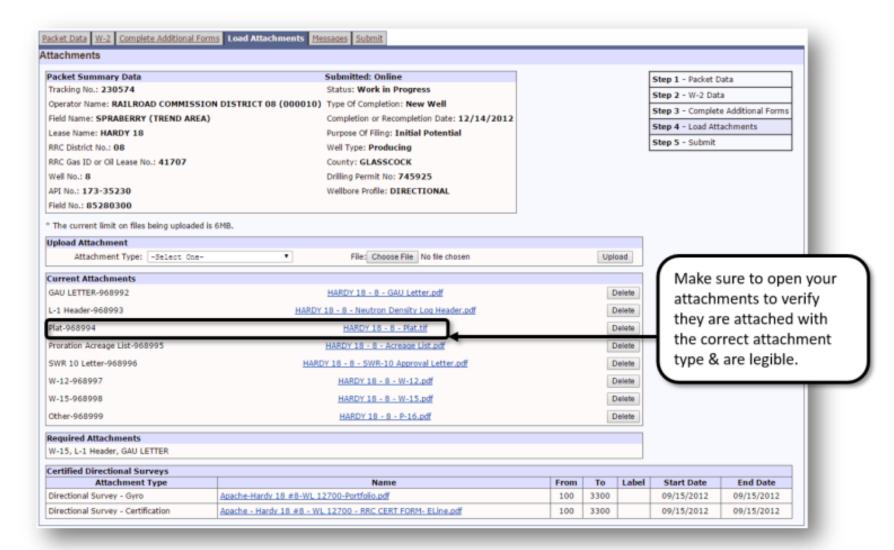


RAILFROAD CON Oil and Gas Divi PO Box 12967 Austin, Texas 78 serv.inc.alute.ix	vion 711-2967	POOLING AL	THORITY	P-1	12
1. Felt Name(s) SPRABERS	RY (TREND	AREA)	2. Lesse/O Humber p'assigned 39874	5. PRC Deine Nur 08	nbor
APACHE C	ORPORATI	DN	5. Operator P-5 Number 027200	6. Visit Number	
7. Pooled Unit Nam GIBSON 7	M.		6. API Number 42-173-34572	b. Purpose of Filing	
19. County GLASSCO	СК		11 Total access or product and 160	Completion Re	222
	DESC	RIPTION OF INDIVIDUAL TRACTS CO	NTAINED WITHIN THE POO	LED UNIT	
TRACTIPLAT SOUNTFIER	TRACT NAME		ACRES IN TRACT		NON-POOLED
TRACT 1	NW4-E	XCEPT HWY 158 ROW	153.48		
TRACT 2	STATE	F TX HWY 158 ROW	6.52		п
					П
				П	
				П	
				П	
					П
foregoing states	penalties pre- ments and the mplete to the	oribed pursuant to the Sec. 91,143, Tex t the information provided by me or und sest of my knowledge. Keisha Stark@apachecorp.com	ras Natural Resources Code. der my direction on this Certif KEISHA STARK Print Name 11/15/2012	that I am authorize ficate of Pooling Au (432) 818-	uthority is true.
Titte		E-mail p wellow	Date	Phone	
When two o Rule 36(d)(3 The certified identifier and H within an it if the Purpos to all fields n if the Purpos	r more tracts in) the operator r plat shall deal sassociated introduction of Filling is to equested on Fe e of Filling is to	Distanción Pludes 31, 34 and 43 e positivid to form a unit to obtain a diffinig pur must tile am eliginal Cardificatio of Provintig Auth grade each tand with an outline and a trad to munision listed on the Certificate, in non-posited anotro untessool interest cessos, obtain a diffiling promision, to but 81 filial fall file VV-1. See completion paperwork, enfer the applicat in an "to this lett of the trad identifilier.	norty and certified plat, dentifier. The tract identifier on inclose by checking the approp- licable fields separately or enter	the plot shall corresp rists box. "All Fields" if the Ce	pand to the tract



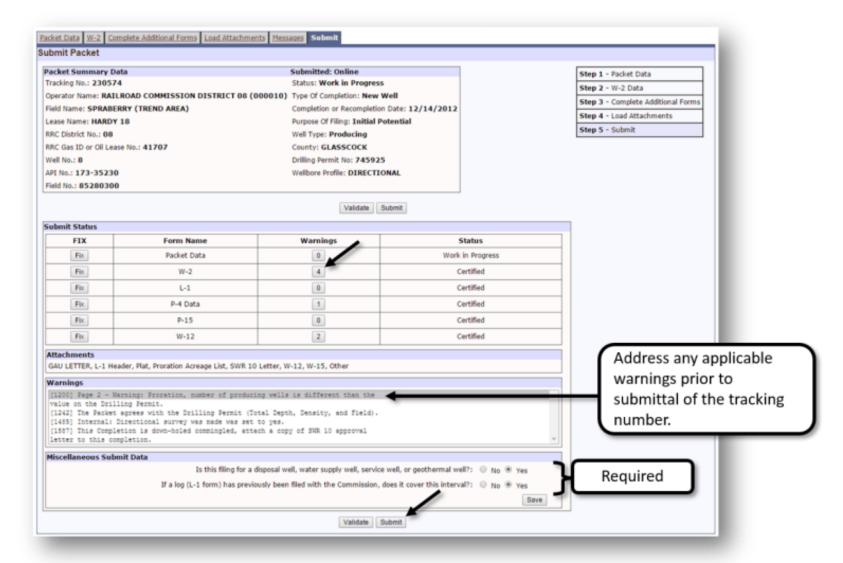
Verify Attachments





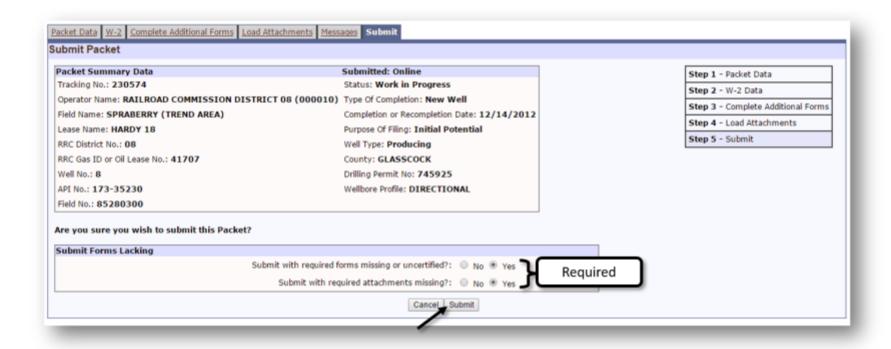
Submittal Page





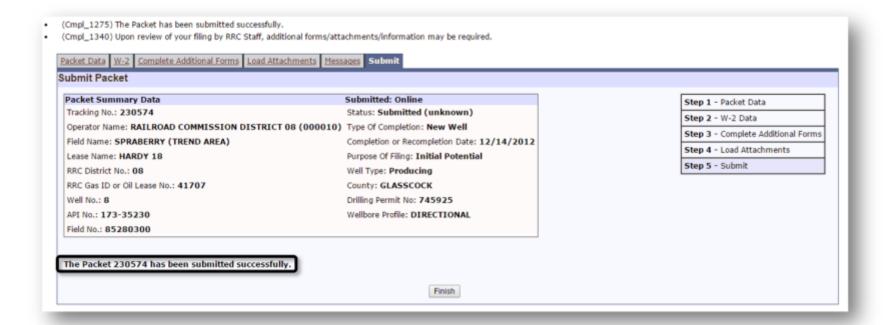
Submit Forms Lacking





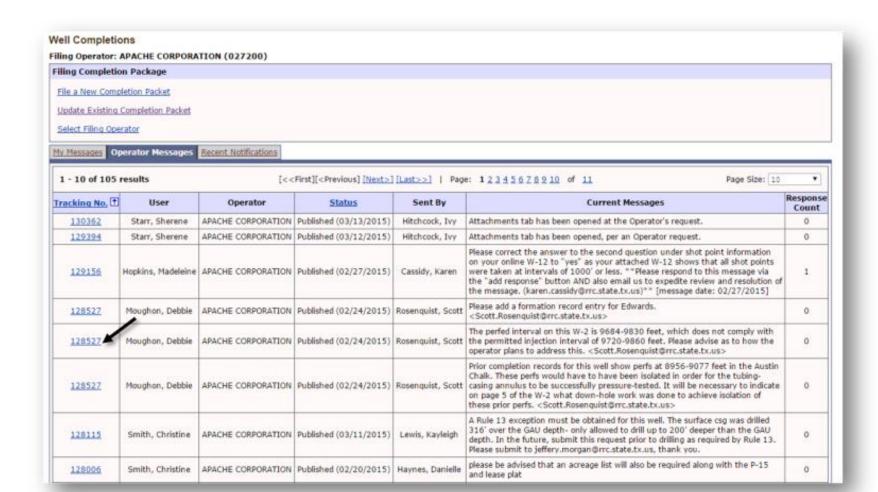
Finished





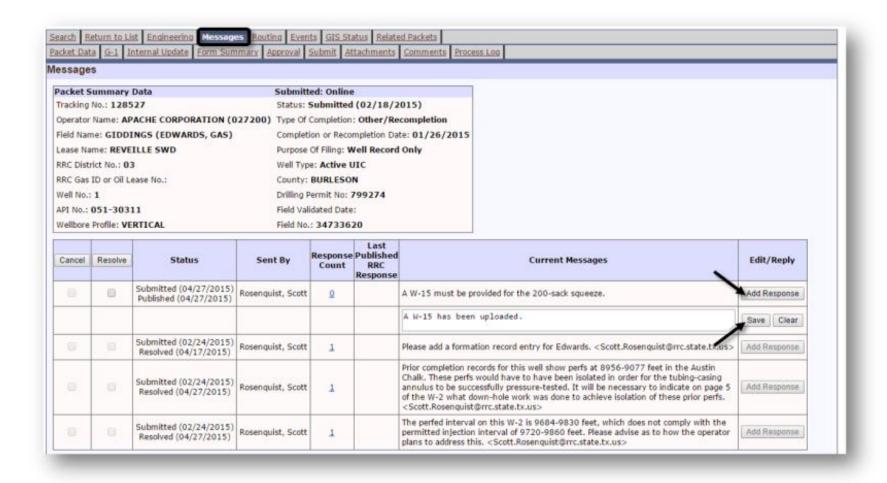
Message Review





Adding Responses





Contact District Office



For immediate assistance regarding the casing and cementing questions please call the appropriate District Office.

District: 01 & 02 (San Antonio)	District: 03 (Houston)	District: 04 (Corpus Christi)	District: 05 & 06 (Kilgore)	District: 7B (Abilene)
112 E. Pecan Street, Suite 705	1919 N Loop West, Suite 620	10320 I-37	2005 North State Highway 42	3444 North First St, Suite 600
San Antonio, TX 78205	Houston, TX 77008	Corpus Christi, TX 78410	Kilgore, TX 75662	Abilene, TX 79603
Phone: 210-227-1313	Phone: 713-869-5001	Phone: 361-242-3113	Phone: 903-984-3026	Phone: 325-677-3545
Fax: 210-227-4822	Fax: 713-869-9621	Fax: 361-242-9613	Fax: 903-983-3413	Fax: 325-677-7122
District: 7C (San Angelo)	District: 08 (Midland)	District: 8A (Lubbock)	District: 09 (Wichita Falls)	District: 10 (Pampa)
622 South Oakes St, Suite J	10 Desta Dr, Suite 500 E	6302 Iola Avenue, Suite 600	5800 Kell Blvd, Suite 300	200 West Foster, Room 300
San Angelo, TX 76903	Midland, TX 79705	Lubbock, TX 79424	Wichita Falls, TX 76310	Pampa, TX 79065
Phone: 325-657-7450	Phone: 432-684-5581	Phone: 806-698-6509	Phone: 940-723-2153	Phone: 806-665-1653
Fax: 325-657-7455	Fax: 432-684-6005	Fax: 806-698-6532	Fax: 940-723-5088	Fax: 806-665-4217

Contact Engineering



For immediate assistance regarding directional surveys or horizontal wells please call the Engineering Department.

Phone: 512-463-1126

Email: engunit@rrc.texas.gov

Website: https://www.rrc.texas.gov/

Address: P.O. Box 12967, Austin, Texas 78711-2967

Contact Underground Injection Control



For immediate assistance regarding injection or disposal wells please call the UIC Department.

Phone: 512-463-6792

Fax: 512-463-6780

Email: uic@rrc.texas.gov

Website: https://www.rrc.texas.gov/

Address: P.O. Box 12967, Austin, Texas 78711-2967

Contact Well Compliance



For immediate assistance regarding producing or shut-in wells please call the Well Compliance Department.

Phone: 512-463-6975

Email: prorationunit@rrc.texas.gov

Website: https://www.rrc.texas.gov/

Address: P.O. Box 12967, Austin, Texas 78711-2967

Evaluation & Archive Video



Evaluation

 Please complete the evaluation available on the RRC website at https://survey.alchemer.com/s3/6403402/2021-RRC-Regulatory-Webinars-Oil-Gas-and-Pipeline-Safety-Evaluation

Archive Video

 A link to the archive video of the webcast will be available on the same webpage as the presentation.